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THE SURGEON AND PAIN*

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Pain is a symptom at once so disabling and so urgent that of all the manifestations of disease it ranks first in the mind of the laity. At the outset it is necessary to remember that capacity for bearing pain varies greatly from individual to individual; it behoves us, therefore, to study the mental make-up of a patient who complains of pain, for an intensity agonizing to one person is tolerable to another. We must next assess the diagnostic significance of the pain, and, finally, apply ourselves to its relief. I believe that it is of some importance to emphasize this order of investigation; too frequently we are led by our sympathy with the sufferings of a patient to alleviate his pain before we have deduced from its severity and its nature the valuable information they so frequently provide.

From a clinical point of view pain may be classified as follows: (1) Pain due to a recognizable cause, which cause can be dealt with—for example, the pain that results from the perforation of a peptic ulcer of the duodenum. (2) Pain due to a recognizable cause, which cause cannot be dealt with—for example, the pain attendant upon inoperable malignant disease. (3) Pain of unknown aetiology, which can or cannot be abolished by surgical measures—for example, the pain of trigeminal neuralgia on the one hand, and the "painful face" that is not trigeminal neuralgia on the other. I shall confine myself to a consideration of the second and third of these groups.

The Peripheral Pathway for Pain

Nerve fibres that mediate sensibility to pain which has its origin in somatic structures pass proximally in somatic nerves, either sensory or mixed, then, possibly, through a plexus, and, finally, they are distributed to the spinal cord by its posterior nerve roots. Soon after they enter the spinal cord they come to an end, and to continue the pathway to the sensorium a new fibre is provided, which rapidly crosses to the opposite side of the cord. This second stage of the pain pathway turns upwards in the antero-lateral tract of the cord, and we must examine the limits of this tract more closely.

For surgical purposes it has a posterior limit on a plane two millimetres anterior to the meridian of the cord, and an inner limit four millimetres from the surface of the cord. In this tract the fibres are arranged in concentric laminae, each of which corresponds to a spinal segment. The fibres representing the lowest segments of the cord are gradually pushed towards the surface by newly arriving fibres representing higher segments, so that in the thoracic portion of the cord the lowest sacral segments are quite close to the surface—in other words, the segments of the cord from below upwards are represented in the tract by laminae from without inwards.

It is held by some that, in addition to the anatomical pathway I have described, the sympathetic fibres which clothe arteries may help to transmit sensations of certain obscure types of pain towards the spinal cord. This matter has not yet been settled: so brilliant an observer as Foerster of Breslau believes in the existence of this subsidiary pathway in man, but experimental evidence for its existence is lacking. Pain fibres from viscera ultimately reach a nerve strand in one of the three "splanchnic" systems—cervical, thoracic, or pelvic—or the pelvic parasympathetic nerves derived from the second to fourth sacral segments. By the splanchnic systems they are directed to the long paravertebral sympathetic chains, and from thence in turn they reach parent spinal nerves along the rami communicantes of the sympathetic system. They finally enter the spinal cord along its posterior nerve roots. At least, in experimental animals it would appear that they do not all pass towards the brain in the same tracts as do sensations of somatic pain; moreover, I have several clinical observations which point to the same conclusion as regards man. They probably ascend by a series of relays of short fibres, the course of which is nearer the grey matter of the cord than that of the somatic pain tract.

Physiology of the Pathway for Pain

When a mixed nerve or a purely sensory cutaneous nerve is divided it is found that its cutaneous territory, as outlined by clinical tests for absence of sensation, is less extensive than its anatomical distribution. In other words, there is a certain amount of overlap in the functions of sensory nerves. This overlap is most marked in the case of pain fibres, and so the area of lost sensibility to pain is smaller than the area of lost sensibility to touch. This arrangement has a surgical application, for if the surgeon wishes to abolish pain by section of cutaneous nerves he must sever all the cutaneous branches that might conceivably overlap the painful area. On the other hand, he has the satisfaction of knowing that by such a procedure he does not interfere with sensation other than cutaneous sensation—that is, he leaves intact afferent fibres from the motor apparatus of the body, for these travel in motor nerves.

At first sight it would seem that a much better way of securing analgesia would be to attack the concentration of sensory fibres in the posterior roots of spinal nerves. There are, however, serious disadvantages in this method. Division of posterior roots is followed, in the area so denervated, not only by loss of all forms of cutaneous

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sensation, but also by ataxia, from division of fibres subserving the motor apparatus, and, moreover, the muscles in the area become atonic. Especially in a limb this price is too high to pay for relief from pain. There are certain technical difficulties in performing the operation, and perhaps the greatest of these is the ease with which a filament or two may be missed. As each filament is distributed widely over the whole segmental area to which it belongs, when even one is left intact sensation is not entirely abolished, and the operation is not completely successful. It is occasionally found that after apparently complete operations of this type there is an interval of freedom from pain, after which it returns.

Those who believe in the presence of a sympathetic pathway for pain explain these very curious cases thus. When the usual route is interrupted there occurs a reorganization and readjustment of all other available afferent paths—paths previously, as Tinel puts it, " mute and latent," but now pressed into service for the transmission of pain. Sensations are conducted by these paths to the sympathetic trunks, and pass up or down the latter to enter the cord by posterior roots above or below those sectioned. This phenomenon is held to be merely one expression of the remarkable urge, found throughout the entire animal kingdom, for securing harmonious working of the organism as a whole, irrespective of local conditions. I would find this argument more convincing were such cases the rule rather than the exception.

In the spinal cord fibres subserving somatic pain and a certain number of those subserving visceral pain pass upwards in the antero-lateral tract ; the remainder of visceral pain fibres employ less definite routes. The concentration of pain fibres in the antero-lateral tract offers an attractive objective for surgical attack. Division of this tract, an operation known as cordotomy, leads to loss of sensibility for sensations of pain and of temperature up to a level which will naturally vary with the depth of section: the deeper the section, the higher the level. The immediate post-operative extent of the analgesic area may not persist, probably because at operation the effects of the cut are intensified by haemorrhage and oedema, so that some fibres are physiologically interrupted, but not anatomically. As these fibres gradually recover their conductivity the analgesic area shrinks. Occasionally local pain may persist in an analgesic area. Such observations raise the possibility that higher centres may be at fault ; but that question is outside the scope of this paper.

I have noted on more than one occasion that unilateral division of the antero-lateral tract did not abolish pain arising in the viscus, even when the pain originated in the one of paired organs, such as the kidneys, lying on the analgesic side. After unilateral cordotomy testicular sensation on the analgesic side also remains unaffected. The gastric crises of tabes dorsalis have been abolished in some cases by unilateral cordotomy, whereas in others bilateral cordotomy has been ineffectual.

Surgical Relief of Pain

Before any operation is undertaken that has for its primary object the denervation of a painful part it must first be proved that a frontal attack on the lesion is out of the question. This decision may have to be made in any one of three sets of circumstances.

1. The site of the lesion and the site of the pain are the same. This problem is quickly settled by clinical and, if necessary, pathological examination.

2. The painful area is more extensive than the local lesion, which may happen, for example, when carcinoma of the rectum invades the nerves of the sacral plexus. In these circumstances care must be taken that any projected operation will not deal only with the visceral component of the pain.

3. The pain is a " referred " pain, and the real lesion distant and possibly not even surgically accessible. For example, certain obscure cases of severe pain about the lower jaw are an expression of cardiac disease, and division of the posterior root of the fifth nerve to alleviate pain of this type would be disastrous.

In addition to patients who suffer from pain of known aetiology, there is a not inconsiderable group who complain of pain, usually about the head, that does not fit into the territory of any nerve or nerves as at present known. These pains are not relieved by stereotyped denervations ; indeed, the patients often state that after operation they are worse than before. It is easy to dismiss pain of this type as functional, but this explanation may not be the correct one, and ultimately a clue may be found to the real nature of such cases. In general it may be said that the outstanding features of pain of this type are its constancy and its burning nature. It is well also to realize that certain types of pain of known or partly known aetiology are resistant to surgical denervation—for example, the annoying pain that is often a sequel of herpes in old people, and the neuralgias associated with, or forming an equivalent for, migraine. In my own experience surgical treatment of either of these conditions has been unsatisfactory.

At this point I feel that I must refer to the justification for performing operations solely for the relief of pain. I cannot myself conceive of any adequate argument against suitably planned and competently performed operations for the relief of intractable pain due to pathological conditions which of themselves do not threaten the life of the patient. The duty of the surgeon is not so clear-cut in cases of malignant disease, for there is the alternative of using analgesic drugs, and ultimately these reduce to some form of opium. If the latter course be chosen it involves the use of increasing doses of the drug, with gradual mental and moral degeneration of the patient, and the undesirable subsidiary effects—for example, the effect on the bowel of large doses of opium. I cannot say that such a prospect appeals to me personally, and I doubt if it appeals to the majority of patients or to their friends. On the other hand, if an operative method of relieving pain be chosen, it is essential that it should entail only a reasonable risk, and that the patient has an expectancy of life compatible with that risk. Each patient is a separate problem, and in practice many factors must be considered—the social and economic position of the patient, his mental outlook and his personal wishes, and the attitude of his friends.

When we come to plan operations for the relief of pain we are confronted with two different anatomical arrangements of pain fibres, according to the somatic or visceral origin of the pain.

1. Somatic pain fibres from the periphery are first concentrated in nerve trunks, may then pass through a plexus, spread out over posterior roots, and, finally, are concentrated in the antero-lateral tract. This tract is the most logical point of attack for the surgeon, for he is certain that by dividing it properly he is securing maximal analgesia with minimal effect on other forms of neural conduction, either motor or sensory.

2. Visceral pain fibres are concentrated in a strand or strands of one of the splanchnic nerves. They spread out again over the " roots " of the strand ; they may extend still further in the sympathetic paravertebral chains; from thence they may have a choice of many posterior roots over which to enter the cord ; and in the cord itself they have a choice of at least two routes—the antero-

lateral tract and the ground bundles close to the grey matter. The most logical point to attack visceral pain fibres is the particular splanchnic strand in which they are first concentrated.

Operations for the Relief of Somatic Pain

Peripheral Nerves.—It is possible to interrupt a peripheral nerve by section, by crushing, or by the injection of chemicals such as alcohol and formalin. The method has a very limited application. It is sometimes used in the treatment of pain in an amputation stump, but here it is often unsuccessful, the pain recurring because of interstitial changes in the nerves above the level of their interruption. It may be used to allow of proper dressing of the very painful ulcers of the foot associated with obliterative arterial disease, in an attempt to limit or to avoid amputation. This can be done without causing any paralysis other than of the small muscles of the sole, a sequel that can be discounted by the use of an arch support. According to the site of the ulcer the nerves dealt with are chosen from posterior tibial, anterior tibial, cutaneous branch of musculo-cutaneous, external saphenous, and internal saphenous. It will be appreciated that if such a procedure is to be completely successful the painful area must be accurately mapped out, so that allowance can be made for overlap.

Cranial Nerve.—Intracranial division of the glosso-pharyngeal nerve is most successful in the treatment of glosso-pharyngeal neuralgia. This condition is characterized by explosions of severe pain, which are usually touched off from a trigger zone in the tonsillar area. There appear to be two forms of the disease: a more common one, in which the pain is felt in and around the tonsil, and a rarer one, in which it is felt deep in the ear. Swallowing precipitates an attack, and a useful point in diagnosis is the temporary freedom from pain that follows cocainization of the fauces and tonsil on the affected side. The nerve is approached through the posterior fossa of the skull; it is easy to identify as it enters the jugular foramen. Division of the nerve does not lead to any motor paralysis. The sensory loss is not troublesome, and does not ultimately interfere with swallowing.

Posterior Roots.—Of recent years the field of posterior spinal rhizotomy has been greatly restricted. This restriction naturally followed the disappointing results and the post-operative disabilities of extensive procedures, and the high mortality associated with the operation. With the perfection of the operation of division of the antero-lateral tract (cordotomy), a much safer procedure, the problem of dealing with pain arising as high as the fifth thoracic segment was greatly simplified. However, division of the antero-lateral tract above the accession of the fibres supplying the arm is a formidable operation; occasionally, therefore, the roots of the brachial plexus (fifth cervical to first thoracic) are divided in lesions of the arm and axilla, usually of the nature of inoperable malignant disease.

On the other hand, division of the posterior root of the fifth cranial nerve is one of the most satisfactory operations in surgery. It is used in the treatment of paroxysmal trigeminal neuralgia, the pain of which is not exceeded by that of any other malady. This disease is usually unilateral, and generally appears first in the territory of the second or third division of the nerve: pain beginning in the first division in the territory of the supra-orbital nerve is quite uncommon. The pain appears and disappears suddenly, and a paroxysm may be started by a touch on the face, especially if a definite "trigger zone" is present, so that washing and shaving, eating and talking, and even any movement of expression are all rigorously avoided. There may be remissions and intermissions, during which the patient is free from pain, and these may have a seasonal incidence. The diagnosis is made from the story and from the absence of neurological signs.

There are two methods of treating the disease: (1) by the injection of alcohol into the affected nerve or into the Gasserian ganglion; and (2) by division of the posterior root of the fifth nerve. Of the two I prefer the second. When the pain does not involve the territory of the first division of the nerve the fibres of the root subserving the cornea may be spared, and so is avoided the danger of injury to the anaesthetic cornea, and consequent corneal ulceration. Even when the cornea must be rendered anaesthetic the exercise of a little care is, as a rule, sufficient to avoid ocular complications. It should be emphasized that the modern operation is safe, and when the original diagnosis has been correct the results are permanent. Usually the root is exposed after elevation of the temporal lobe of the brain; the scar is not seen, as it is placed within the limits of the hairy scalp.

Antero-lateral Tract.—Division of the antero-lateral tract in order to abolish the pain of incurable disease was originally suggested by Dr. Spiller of Philadelphia. The field of this most valuable operation is a wide one, and the indications for its application may be grouped as follows: (1) Pain due to the presence of an irremovable tumour, which is pressing upon or infiltrating contiguous nerves. The distressing pain of widespread malignant growths in the pelvis is an instance. (2) Pain due to pressure upon nerves by bony outgrowths—for example, in spondylitis—and pain due to arthritis—for example, of the hip. (3) Pain due to intractable neuritis, as that of diabetes, or neuritis of the cauda equina. (4) Pain in amputation stumps of the lower extremity.

The operation may be performed for pain originating as high as the fifth thoracic segment, although in rare instances it has been used for pain originating as high as the eighth cervical segment. The technical point of importance is the avoidance of injury to the crossed pyramidal tract, which is situated posterior to the proposed line of section. The division is usually made after removal of the spines and laminae of two vertebrae—the third and fourth thoracic as a rule. In cases where the pain is unilateral, and likely to remain so, a unilateral cordotomy suffices. Bilateral cordotomy is necessary: (1) When the pain is bilateral, and when, though unilateral at first, it is likely to become bilateral, as in malignant growths of the pelvis that involve first one and then the other lumbo-sacral plexus. (2) When the pain is in part visceral in type.

After a successful cordotomy there is not any impairment of muscular power or of muscular co-ordination, and the evacuation and control of urine and faeces is preserved. The risk of the operation is not high when the physical condition of many of these patients is taken into account; but it is my conviction that the operation should be considered much earlier than it usually is. I believe that when pain first appears in incurable disease, a surgeon has the responsibility of suggesting cordotomy to the patient and to the friends. For this reason, also, I do not think that cordotomy should remain a specialist's operation, but it should be included in the armamentarium of all surgeons who are likely to have to deal with such cases.

Occasionally even bilateral cordotomy fails to relieve visceral pain; certain forms of tabetic gastric crises fall into this group. It may be noted also that cases are on record in which the analgesia has not been permanent; this may be due to an insufficiently deep cut into the cord, or, possibly, to sensations of pain pressing into service for their transmission the posterior columns of the cord—the latter possibility an example of the well-known biological urge towards wholeness of the organism.

Operations for the Relief of Visceral Pain

I cannot deal with all the operations that have been devised for the relief of purely visceral pain. I shall deal with the pain of angina pectoris, and with that which arises from disease of the pelvic viscera, because these two types illustrate the anatomical and the physiological principles involved in surgical treatment.

ANGINA PECTORIS

Let us leave on one side the mechanism of production of anginal pain as well as the desirability or not of its suppression, and try to work out a satisfactory procedure for its relief. I have already stated that the greatest concentration of pain fibres from a viscus is to be found in the sympathetic strands in its vicinity. In the case of the heart these are in the cardiac plexus, but a direct attack on this is obviously out of the question. After the first concentration we must look for a "spread" over sympathetic roots; this is over a vertical extent, the upper boundary of which is the junction of the superior cardiac nerve with the superior cervical ganglion, the lower boundary the ramus communicans of the fifth thoracic nerve. To extirpate all the nerves in this spread is obviously undesirable. If it be remembered, however, that the highest available sympathetic connexion to the spinal cord is by way of the ramus communicans of the first thoracic nerve, the vertical extent of attack can be greatly reduced.

Attention may be focused on the posterior roots of the upper five thoracic nerves, but rhizotomy of these would be a formidable operation for so poor a surgical risk. It has been found possible, however, to block afferent cardiac fibres outside the spinal canal by injecting alcohol into and around the upper five thoracic ganglia of the sympathetic chain on the left side. This is not a serious procedure; many good results have followed its application, and I have myself used it with satisfaction. The plan is a compromise between the ideal one of attacking at the most concentrated zone, with high risk, and attacking over a wider front, at a low risk.

PELVIC VISCERAL PAIN

The first "zone of concentration" of sympathetic fibres from pelvic viscera is conveniently—perhaps too conveniently—open to surgical attack as the presacral nerve in front of the fifth lumbar vertebra. In it pass afferent fibres connected with the bladder, the rectum, and certain of the internal genital organs; and it is usually easy enough to resect, with a minimum operative risk. Before employing presacral neurectomy for pain of pelvic origin, it is necessary to be satisfied that the strand does not contain extrinsic nerves which transmit impulses indispensable to the proper functioning of any viscus. Such fibres appear to be absent, for presacral neurectomy is followed by singularly little disturbance of function; indeed, the only really undesirable sequel is sterility, though not impotence, in the male.

The operation has been applied with success in certain cases of intractable cystitis, and in the palliative treatment of inoperable malignant disease of the bladder. It has also been utilized for the relief of intractable dysmenorrhoea, when the pain is of a colicky type; these patients must be very carefully selected. It is, however, by no means certain that the beneficial effects of the operation are directly due to the division of pain fibres alone, although these are undoubtedly present in the nerve. Probably the division of vaso-constrictor fibres that traverse the nerve diminishes the intensity of symptoms due to inflammatory disease by improving the blood supply of the diseased part; and in "obstructive" dysmenorrhoea the efforts of the uterus to get rid of its contents may be assisted by a reduction in the tone of the cervix as a result of division of some of its extrinsic nerve supply.

Summary

1. There are available a number of surgical procedures which have for their sole object the abolition of pain.

2. Certain of these constitute the treatment of choice for the appropriate condition.

3. None of these operations is to be employed without an assessment of its possible remote effects.

4. Certain of these operations might well be employed more frequently in malignant disease, and at an earlier stage.

FAMILIAL ACHOLURIC JAUNDICE SIMULATING LEDERER'S ANAEMIA

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The differentiation between acholuric jaundice and the acute haemolytic anaemia associated with the name of Lederer may present considerable difficulty, a fact which is well exemplified by the following case records.

Case I

A boy, aged 10, complained on April 19th, 1934, of pain in the left side of the upper abdomen; he felt sick, and vomited repeatedly throughout the day, the vomitus being green and watery. During the following day he was slightly better, but had similar vomiting at night. He did not sleep well, complaining of headache, and became delirious. On April 21st his condition was worse, and he was admitted to hospital. He had been noted to be feverish and to have dark-coloured urine. His bowels had been regular, but were loose on admission, following Gregory's powder.

CONDITION ON ADMISSION

On admission he was seen to be a well-developed but rather thin boy, showing an extreme degree of pallor of the lips and mucous membranes. The skin was of a slightly yellowish colour, and there was a definite icteric tinge in the conjunctivae. He was very restless, with sighing respirations. The temperature was 102°, pulse 140, and respirations 25. The spleen was enlarged, extending beyond the costal margin medially to within an inch of the mid-line and downwards to about the level of the umbilicus. It was firm in consistence and slightly tender, but no friction could be distinguished. The liver was not enlarged, and there were no signs of enlarged lymph glands. The heart appeared slightly dilated, and loud blowing systolic murmurs could be heard all over the praecordia. No abnormalities were found in the other systems. The urine contained urates, but chemical and microscopical examination revealed no evidences of blood, albumin, sugar, or acetone.

The faeces contained no occult blood. The blood findings were: red blood corpuscles 1,500,000 per c.mm.; haemoglobin 18 per cent.; colour index 0.6; and white blood cells 6,000. The blood film showed small well-filled cells. There was slight variation in size; the majority appeared somewhat smaller than normal, but regular in shape. No primitive cells of either the red or the white series were present. Reticulocytes numbered less than 1 per cent. The fragility of the cells did not appear to be increased, the range being 0.45 to 0.35. Van den Bergh test, direct reaction delayed positive; icteric index 10.

BLOOD TRANSFUSION AND SPLENECTOMY

On April 22nd the patient was transfused with ten ounces of citrated blood. Following the transfusion the boy was less dyspnoeic, but there was no improvement in the blood count and no reticulocyte response. Accordingly he was

given a second similar transfusion four days later, after which he made a rapid improvement, with a reticulocyte crisis, a drop in temperature to normal, and a slowing of the pulse rate. With the improvement there was a rise in the colour index and a slight diminution in the size of the spleen. Ten days after the second transfusion the fragility range was found to be 0.5 to 0.4. Three weeks after the second transfusion the patient's blood level became stationary, and a permanent reticulocytosis of 15 to 20 per cent. was found to be present along with a more definite jaundice.

The patient was seen from time to time until October, 1934, when at last the parents consented to splenectomy, as the general condition was obviously deteriorating with a progressive anaemia. Splenectomy was performed by Professor Wilkie, and at the same time a thickened gall-bladder containing several small dark faceted stones was removed. Following the operation the patient made rapid improvement. The progress of the case is shown in Table I.

TABLE I

Date	Day of Disease	R.B.C. in millions	Haemoglobin %	Colour Index	W.B.C. in Thousands	Reticulocytes %	Fragility Range	Icterus Index	
April 22	4	1.50	18	0.6	6.0	<1	0.45-0.25	10	Transfusion, 10 oz.
„ 23	5	1.25	18	0.7		<1			
„ 24	6	1.22	16	0.6		<1			
„ 26	8								Transfusion, 10 oz.
„ 27	9				7.5	4			
„ 28	10		21			2			
„ 29	11		23			15			
„ 30	12	1.80	32	0.9		18			
May 2	14		37			15			
„ 3	15					11			
„ 5	17					7			
„ 6	18	2.18	45	1.0			0.5-0.4		
„ 10	22	2.60	54	1.0	5.2	3			
„ 15	27	3.40	60	0.9	6.0				
„ 24	36	3.32	60	0.9					
„ 27	39					15			
„ 28	40					21			
June 1	44	3.10	58	0.9		16	0.6-0.45	22	Left hospital
July 11	84	2.70	50	0.9		16			
Aug. 22	126	2.60	50	0.9		15	0.6-0.4	14	
Oct. 9	174	2.40	45	0.9		16			
„ 23	188								Splenectomy
Nov. 8	204	4.50	80	0.9	11.0	<1	0.6-0.4		

Case II

A boy, aged 3, a brother of the patient in Case I, was admitted to hospital on May 8th, 1934. On May 1st the child, who had been in perfect health, started vomiting. During the week before admission he steadily became more and more listless, without showing any definite signs or making any complaints. He was swinging an irregular temperature between 99° and 103°, and was noted to be becoming progressively paler.

On admission, he was seen to be a plump, well-developed boy. He appeared desperately ill, the skin being of a greyish-yellow colour, and unusually transparent. The lips and mucous membranes were very pale. Temperature was 100°, pulse 140, and respirations 20. He lay quite still in bed, apparently too ill to resent examination. The spleen was enlarged, and extended two fingerbreadths below the costal margin. It was smooth, rounded, and freely movable. There was no obvious enlargement of lymph glands, nor was the liver increased in size. The heart was slightly dilated, and soft blowing systolic murmurs were heard all over the praecordia. No abnormalities were found in the other systems. The urine contained no albumin, blood, sugar, etc., and no abnormalities were found on microscopical examination.

The blood findings were: red blood cells 1,700,000 per c.mm.; haemoglobin 27 per cent.; colour index 0.8; white blood cells 50,000. The film showed gross anisocytosis; a great proportion of the cells were microcytes, but there were also large numbers of megalocytes, the majority of which were polychromatic. Many megaloblasts and normoblasts were present. The white cells were mostly young polymorphs, but there were considerable numbers of myelocytes present in addition. Reticulocytes numbered 5 per cent.

On the day following admission a blood transfusion of twelve ounces was given, and this was followed by a dramatic improvement in the patient's general condition. The temperature and pulse rate at once began to settle, and there was a rapid rise in the red blood count and the haemoglobin, associated with a reticulocyte crisis. The spleen quickly reduced in size until it was just palpable at the costal margin. A week after transfusion all abnormal cells had disappeared from the peripheral blood; the cells were more uniform in size, and appeared larger. Fragility tested three weeks after the transfusion showed the range 0.5 to 0.35, and two weeks later 0.55 to 0.4, while a permanent reticulocytosis of about 8 per cent. was maintained. A month after discharge the child's condition had deteriorated, and 41 per cent. reticulocytes was found. The parents, however, would not consent to splenectomy. Table II shows the progress of the case.

TABLE II

Date	Day of Disease	R.B.C. in Millions	Haemoglobin %	Colour Index	W.B.C. in Thousands	Reticulocytes %	Fragility Range	Icterus Index	
May 8	8		27		50.0	5			
„ 9	9	1.7	27	0.8	44.0	8			Transfusion, 12 oz.
„ 10	10	2.36	44	0.9	12.0	12			
„ 11	11					19			
„ 12	12					40			
„ 13	13					33			
„ 14	14	3.20	62	0.97	8.0	8			
„ 21	21	3.62	68	0.94	6.0				
„ 29	29	3.80	72	0.95	6.2	7	0.5-0.35	15	
June 2	33					5			
„ 11	42	3.86	72	0.92	7.4	8	0.55-0.4		Left hospital
July 11	72	3.10	50	0.8		41			

PREVIOUS AND FAMILY HISTORY

In the case of the elder boy it had been noted that he was always a little pale, and less active than the rest of the family. He had often had bilious attacks with vomiting, which kept him from school. The younger child, on the other hand, had always been perfectly healthy, and had a rosy complexion. There was an indefinite history of jaundice in the paternal grandmother, who had died many years previously. The father suffered from jaundice on several occasions until 1917, when an enlarged spleen was removed in a military hospital; since that time he has had no symptoms. His blood, examined on October 9th, 1934, showed, however, a slight increase in fragility, the range being 0.5 to 0.4. No other abnormality was found in the blood examination, and there was no increase of reticulocytes. Two other children in the family were apparently healthy, but permission to examine them was refused.

Discussion

When admitted the condition of the elder boy was diagnosed as acholuric jaundice on account of the splenomegaly, the blood film appearances of small well-filled regular cells, and the history of the father's jaundice treated by splenectomy. On the finding of a normal fragility and no reticulocytosis the diagnosis was revised

to that of acute haemolytic anaemia. Later, when the blood level became stationary at just over three million red cells and the jaundice became more marked in conjunction with a permanent reticulocytosis with marked increase of fragility, a reversion to the original diagnosis was made. The history of bilious attacks probably indicates the occurrence of previous less severe haemolytic crises.

The younger boy presented the features usually said to occur in acute haemolytic anaemia, as first described by Lederer in 1925.[1] The typical characteristics were pyrexia, leucocytosis, and reticulocytosis with severe anaemia of sudden origin without any obvious cause. The majority of the published records of acute haemolytic anaemia describe the anaemia as being hyperchromic in type,[2 3 4] although low colour index cases have been described.[5] In the present cases the colour index rose following transfusion. In previous reports regarding Lederer's anaemia the fragility has been found to be increased at the time of admission, and has then diminished until normal when cured. The reverse was found in these cases, the cells showing an increasing fragility during the period of observation.

The first case, that of the elder boy, may be looked upon as one of acholuric jaundice showing several unusual features. Cases have previously been described with a normal fragility, and Gänsslen[6] states that 10 per cent. of acholuric jaundice subjects show a normal fragility. Thus the initial normal fragility in the present case is not unique. The absence of any reticulocytosis until after the second transfusion must, however, be rare, as the reticulocyte count is stated always to be raised in the disease.[4 7] Barber[8] has, however, reported a case with a reticulocyte count of only 0.5 per cent. The low colour index on admission is also uncommon, and suggests some error in technique, since the film showed the cells to be well filled though small in diameter. The rapid improvement following splenectomy is a usual finding, as is the presence of gall-stones at operation.

The younger boy would have been regarded as a typical case of Lederer's anaemia if his brother had not been found to have acholuric jaundice. The very mild degree of icterus present in association with such a profound degree of haemolysis is surprising, a fact which has been previously discussed.[9] The leucocytosis with primitive cells in the blood film is more suggestive of a Lederer's anaemia, but sometimes occurs in acholuric jaundice.[1] The very acute onset of anaemia with pyrexia in two brothers at about the same time suggests an infective origin, but as in previous cases careful bacteriological examination of the stools and urine failed to reveal any haemolytic organisms. No septic foci were discovered, and in neither case was there evidence of external or internal bleeding. Splenectomy is obviously indicated for the younger child, who has shown a mild relapse since discharge, and is liable to another acute crisis with a possibly fatal outcome.

Summary

1. The cases are reported of two brothers showing simultaneous acute haemolytic crises in unsuspected acholuric jaundice.

2. The elder showed the unusual features of an initial normal fragility, an increased fragility developing later, and an absence of reticulocytosis.

3. The younger showed the typical features of an acute Lederer's anaemia.

4. Both responded well to blood transfusion, with a subsequent return to continued haemolysis of mild degree.

5. The elder was successfully treated by splenectomy.

I wish to record my thanks to Professor D. M. Lyon for permission to report these cases, which were treated in his wards.

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A NOTE ON PRE-OPERATIVE PREPARATION OF CASES WITH GRAVE INTRA-ABDOMINAL HAEMORRHAGES

BY

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The outlook on acute abdominal surgery has undergone considerable change within recent years. Formerly, attention centred largely upon the lesion which had initiated the crisis, and the patient was hurried from the ambulance to the operating room for what was indeed an emergency operation.

An increasing realization that the general condition of the patient is one of the most important factors which determine the ultimate success of any form of treatment has brought with it a much wider outlook in emergency surgery. Measures directed towards combating the shock which is such a prominent feature of many acute abdominal conditions are now established as a routine, and it is appreciated that two or three hours devoted to supplying warmth and fluids (frequently by the intravenous route) will so improve the condition of the patient that operation can usually be undertaken without anxiety and with a much increased chance of a smooth convalescence. An operation undertaken in a patient whose general condition is so precarious that there is serious anxiety that it may not be successfully completed presupposes ultimate failure, even if the patient does actually survive the operation itself.

The value of pre-operative measures in the treatment of grave intra-abdominal haemorrhages has apparently not received such wide recognition. Frequently, indeed, the greater the exsanguination and circulatory collapse the more urgently is the operation for control of the haemorrhage undertaken. It is certainly remarkable that this procedure is so frequently successful, assisted perhaps by the post-operative infusion of saline or by reintroduction of the lost blood.

The extreme circulatory collapse seen in the subjects of massive intra-abdominal haemorrhage is clearly due to the rapid depletion of the blood volume, associated with a failure of the compensating function of the tissue fluids. There is, in addition, a not inconsiderable element of shock consequent upon the irritation of the peritoneum by the blood within it. The only reasonable method of improving the patient's condition is to increase the blood volume by the administration of considerable quantities of fluid.

Rationale of Fluid Administration

From animal experiment it is known that the intravenous administration of saline equal in quantity to the blood which has been lost will bring about a considerable, though temporary, recovery of the blood pressure.

Bayliss[1] showed that the employment of Ringer solution containing gum resulted in a more complete and more permanent rise of the blood pressure, as a result of its increased viscosity and of its greater osmotic pressure, which opposed its rapid filtration from the circulation. The superiority of blood over ordinary salt solution was proved experimentally by Graham,[5] but its virtue would not appear to depend essentially upon its haemoglobin content, for Rous and Wilson[11] demonstrated instant and permanent restoration of the blood pressure by the injection of an amount of plasma equal to the volume of blood which had been removed. They also showed in this way that roughly three-quarters of the total haemoglobin may be safely removed, provided that the blood bulk is maintained. They state: "The amount of haemoglobin which remains after fatal acute haemorrhages is far above the minimum requirement of the body." Rous and Wilson[11] regarded fluids containing 6 or 7 per cent. of gum acacia as the best substitute for blood or plasma. Penfield,[10] on the other hand, who kept the blood pressure of his animals at a low level for some time, was not able to show that gum-sodium-bicarbonate solution or gum-glucose solution was any more efficacious than an isotonic solution of sodium chloride in saving life.

There is, however, an additional feature in the case of intra-abdominal haemorrhage which was not present in the experimental observations. The haemorrhage is still uncontrolled. This is doubtless the reason why many still hesitate to employ massive intravenous administrations as a pre-operative measure. If, however, the bleeding still continues, the only logical way of improving the condition of the patient is to introduce fluid into the vein at a rate more rapid than that at which it is leaving at the bleeding point. It would appear from the evidence of Rous and Wilson that it is not essential to use actual blood, since there is still an adequate supply of haemoglobin to support life. That treatment based on this reasoning is not only without danger, but actually life-saving, would appear to be borne out by some of the case records given below.

Technique

The most satisfactory routine pre-operative treatment of these severe haemorrhages is obtained with the use of a continuous intravenous drip apparatus. Such an apparatus is not essential, though it is so simple that it is strongly recommended. With its use the rate of introduction of the fluid is nicely controlled, and it can be continued for a prolonged period with a minimum of attention. Within a few minutes of admission of one of these grave cases to hospital, the continuous intravenous drip apparatus is applied, and a pint or more of 6 per cent. gum saline is introduced fairly rapidly. By this time a blood donor is available, and a pint of citrated blood is administered in the drip apparatus. This is followed by more gum saline, which is continued during the operation, for which the patient has now usually sufficiently recovered. Continuous drip infusion has usually been continued for twelve hours or more after operation, using normal salt solution, to combat shock and still further to restore the body fluids.

Case Records

The instances given below illustrate most of the important features of this particular method of treatment, and the indications for its use.

Case 1.—F. B., male, aged 21, had had an operation for recurrent appendicitis on March 10th, 1934. At operation the appendix was removed and some calcified tuberculous glands at the base of the mesentery were scraped away. In the evening the patient became very collapsed, and was clearly suffering from intra-abdominal haemorrhage—pulse 128, very feeble; systolic blood pressure 65 mm. Hg; haemoglobin 84 per cent. The general condition was too bad for him to stand immediate operation. An intravenous infusion of citrated blood was given, and brought about a rapid improvement of the blood pressure and general condition. Operation was then successfully undertaken, and the patient made a rapid recovery, being discharged on the fourteenth day.

Case 2.—J. T., male, aged 33, was admitted to the Manchester Royal Infirmary on March 18th, 1934. He had fallen about eleven feet from a ladder a few hours earlier on to his left side. The accident-room notes recorded: "Patient moribund; quite pulseless; no sounds audible at apex." A cannula was immediately tied into the right internal saphenous vein and gum saline given by the continuous drip method. The gum saline was introduced very rapidly at first (as a stream, and not merely rapid drops). After ten minutes the pulse became palpable. One pint of citrated blood was then given through the drip apparatus, and then more gum saline. Four hours after admission the patient's general condition was good—pulse 102, and strong. Operation was accordingly performed under general ether anaesthesia and a ruptured spleen removed. Active haemorrhage was still present from a branch of the splenic artery. The continuous drip was continued for some hours after operation, normal saline being employed. The patient made a splendid recovery, and went home on the sixteenth day.

Case 3.—N. P., female, aged 39, was admitted to the Manchester Royal Infirmary on April 13th, 1934. She had been picked up unconscious on the road, having been knocked down by a motor car. The head injury at first appeared to be the chief trouble. She was kept under observation for some hours. Her general state and appearance, associated with upper abdominal rigidity and tenderness, most marked in the left hypochondrium, then suggested a rupture of the spleen. The condition improved so much after the intravenous administration of 35 oz. of gum saline that one began to doubt the diagnosis. However, at operation a rupture of the spleen was found: splenectomy was undertaken, and the blood swabbed from the peritoneal cavity. An ovarian cyst of moderate size was also removed. This patient had a very stormy convalescence. A blood transfusion was given about twelve hours after operation. On the third day she developed a severe cellulitis of the left arm, brought about by septic abrasions. On the fourteenth day the wound broke down completely and had to be resutured. Left lobar pneumonia developed, and was followed by empyema, for which intercostal drainage was employed. Her condition improved considerably, and she was transferred to the convalescent hospital after eleven weeks.

Case 4.—Mrs. E. B., aged 27, was admitted on May 4th, 1934, suffering from a ruptured ectopic pregnancy—pulse 130, rapid and feeble. One pint of gum saline was administered intravenously, with marked improvement in the general condition and pulse. Operation was undertaken half an hour later, and the patient made a smooth convalescence, being transferred to the convalescent home on the twelfth day.

Case 5.—C. M., male, aged 9, was admitted to the Manchester Royal Infirmary on July 2nd, 1934. About four hours previously he had fallen from a tree on to his left side. On admission he was in a state of extreme shock, with a rapid and very feeble pulse and marked pallor. A diagnosis of ruptured spleen was made, but the patient was too ill to contemplate immediate operation. A continuous intravenous drip apparatus was fixed to the left saphenous vein at the ankle, and gum saline was introduced at a rapid rate. This was followed by citrated blood given through the drip apparatus. The condition improved considerably. Some urine was voided, which was heavily blood-stained. Operation was undertaken under ethyl chloride and ether general anaesthesia. There was much blood in the peritoneal cavity. A rupture of the spleen was found, and a splenectomy performed. There was a large haematoma behind the peritoneum in the region of the left kidney. The kidney was found to be almost completely severed by a radial tear, and it was removed. Continuous saline infusion was maintained by the drip apparatus for about twelve hours after operation, during which time the condition was very grave. Steady, if slow, improvement followed, and he was sent home well on the fourteenth day. This patient was readmitted on August 6th, 1934, with acute small intestinal obstruction from adhesions. He made a good

convalescence following operation and was discharged on the sixteenth day.

Case 6.—Mrs. M. S., aged 31, was admitted to the Manchester Royal Infirmary on July 11th, 1934. The patient was very pale and collapsed—pulse 164, and very feeble. A diagnosis of ruptured tubal gestation was made. Two pints of gum saline were introduced into the saphenous vein at the ankle by the continuous drip method, followed by a pint of citrated blood. Operation was contemplated about two hours after admission, but her condition was still too poor to warrant it. At three and a half hours the condition was better, but not good. As it was feared that the haemorrhage might be continuing, operation was then performed, but with some anxiety. At operation, under ether anaesthesia, the haemorrhage appeared to have stopped completely. The affected portion of the tube was excised and the blood removed. The continuous saline infusion was maintained during the operation, at the end of which the general condition of the patient was much improved. This seemed to suggest that one might with advantage have withheld operation a little longer. She made a good convalescence, apart from a continued slight pyrexia, and was transferred to the Convalescent Hospital on the twenty-first day.

Commentary

As long ago as 1906 Crile[2] described a case of uncontrolled haemorrhage following nephrolithotomy, in which a direct transfusion from the radial artery of the donor to the basilic vein of the patient brought about great improvement in the general condition, so that a difficult nephrectomy was successfully undertaken.

Dretzka[3] (1930), in discussing the treatment of rupture of the spleen, states: "The two factors to be placed in the balance when confronted with a case of intra-abdominal haemorrhage are the patient's resistance to additional operative trauma, and the knowledge that delay beyond a certain point is fatal. To operate on a patient suffering with systemic shock is unpardonable." He advocates warmth, intravenous injections of saline and glucose, and later direct transfusion of blood. There is therefore nothing original in the employment of massive intravenous injections as is advocated in this paper. But it has appeared worth while to record this series of cases, because of a somewhat prevalent reluctance to employ intravenous infusions while the haemorrhage is still uncontrolled. That recurrence of haemorrhage may not ensue from very massive infusions is seen in Case 6 above, in which no further haemorrhage had taken place after the administration of two pints of gum saline and a pint of blood. The employment of the continuous intravenous drip method has been largely a matter of convenience, and is not essential. It is a method which has been widely employed for other conditions, and about which there is accumulating an increasing literature. (Matas,[9] Hendon,[7] Gallie and Harris,[4] Hyman and Hirshfeld,[8] Bailey and Carnow,[6] etc.) It may be argued that most cases of uncomplicated intra-abdominal haemorrhage, even though submitted to operation in a desperate condition, do recover. That is undoubtedly true, and it is certainly not essential to employ these measures in all cases. But occasional cases do not recover, and it is incredible that Cases 2, 5, and 6 of this series should all have undergone successful operation without the adequate pre-operative treatment described.

It is not possible to state the length of time which should be devoted to the pre-operative treatment. This will vary according to the needs of the case. In Case 2 an apparently moribund patient was brought to successful operation in splendid condition after treatment for four hours. In Case 6 the condition had improved after three and a half hours, but considering that the haemorrhage had not started up again and that the general condition was very much better at the end of the operation than at the beginning it would appear that a longer period of pre-operative preparation could advantageously have been employed. It is a general impression that one tends to operate a little too early rather than too late.

Summary

The small series of cases recorded in this paper seems to demonstrate conclusively the value of massive intravenous infusions in the pre-operative preparation of grave intra-abdominal haemorrhages. It also shows that blood is not an absolute essential, but that gum saline is a satisfactory substitute, even though the haemorrhage is still uncontrolled. The cases are put on record as a plea for a much more vigorous pre-operative treatment of severe haemorrhages than is commonly employed in practice.

The author wishes to express his gratitude to the honorary surgeons of the Manchester Royal Infirmary, by whose kind permission this work is recorded.

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SARCOMA OF THE TONGUE

WITH REPORT OF A CASE

BY

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Sarcoma of the tongue appears to be almost as rare to-day as when Butlin said of the condition: "It would be quite useless to try to write an account of it which shall be useful." He was not only referring to the rarity of sarcoma of the tongue, but was emphasizing the fact that numerous cases have been included in this category in the past which cannot be considered sarcomatous after careful investigation. Thus Fripp and Jocelyn Swan[1] were forced to discard fifteen out of forty-four cases of so-called sarcomata collected from the literature in 1905. Coughlin[2] in 1915 recorded fifty-eight cases, and added two of his own, but Kudlich[3] was only able to collect records of sixty cases in 1931, and added that many of these were insufficiently or inaccurately described. Goldstein,[4] after a most intensive study of the literature from all sources, found records of sixty-five cases.

I do not propose to deal with lymphosarcoma of the base of the tongue or with the so-called lympho-epithelioma. As has been pointed out by New, Broders, and Childrey,[5] these tumours generally arise in the tonsil or pharynx, and cannot be regarded as primary tumours of the tongue. Unusual forms of sarcoma of the tongue have been recorded by Menetrier and Surmont,[6] Loubat and Petit,[7] and Kudlich, who have described sarcomatous growths with an angiomatous element arising during early infancy. Heath[8] reported an encapsulated round-celled sarcoma which recurred three weeks after removal. Professor Coenen[9] recorded a case of hypernephroma of the base of the tongue without evidence of primary growth in either kidney. Thus it would appear that sufficient cases have now been reported and described to indicate the usual features of sarcoma linguae.

Aetiology

If the relatively small group of congenital neoplasms be excluded, sarcoma of the tongue may be regarded as a disease of adult life. Males are more commonly affected in the proportion of two to one. The question of trauma is as vexed in sarcoma of the tongue as in sarcoma elsewhere. Coughlin claims that 16 per cent. of cases reveal a definite history of trauma, and include those in which biting, scalding, and the irritation by a sharp tooth or by a scar have occurred a reasonable period before the onset of the growth.

Pathology

While there are several varieties of sarcoma of the tongue histologically, the macroscopic appearance in the main presents a surprising uniformity. The growth appears as a rounded intraglossal mass, fibrous, and white, or slightly tinged with pink. The tumour is firm and elastic in consistence, and is sometimes surrounded by a pseudo-capsule. The tendency may be to push aside rather than to infiltrate the median raphé. The varieties seen microscopically are: (1) small round-celled sarcoma ; (2) large round-celled sarcoma ; (3) spindle-celled sarcoma ; (4) mixed-celled sarcoma ; and (5) lymphosarcoma. There does not, however, appear to be the same degree of difference of malignancy between the spindle-celled growth and the other varieties as in sarcoma elsewhere. Fripp and Swan commented on this fact, and Coughlin showed that metastases occurred in the lymph nodes in the following proportions: (1) round-celled, 35 per cent. ; (2) spindle-celled, 25 per cent. ; (3) mixed-celled, 33½ per cent.

It is suggested by some authorities—namely, Spencer and Cade[10]—that round-celled sarcoma of the tongue is probably a lymphosarcoma. This is an abstruse question with which I do not propose to deal in detail, but the following factors do not appear to support this view: (1) Round-celled sarcoma occurs sometimes in the anterior two-thirds of the tongue ; this was so in the case reported below. If the round-celled sarcoma is in reality a lymphosarcoma, one would suppose that it would be almost invariably situated in the posterior third of the tongue, richly endowed as it is with lymphatic tissue. (2) It has been pointed out that lymphatic metastases occur in 25 per cent. of cases of spindle-celled sarcoma of the tongue. This fact disposes of the argument that round-celled sarcoma is of a lymphosarcomatous nature, since lymphatic metastases are reputed to be confined to the latter variety. Ewing,[11] who mentions round-celled sarcomata of the tongue, does not commit himself as to their exact nature. Kaufmann[12] differentiates between what he calls the interstitial and tuberous, sometimes pendulous, forms of the growth.

Clinical Classification

Sarcoma of the tongue falls into three main categories. Secondary growths occur fairly commonly at the base of the tongue. Several cases of so-called congenital sarcoma manifesting themselves during the first year of life and exhibiting an angiomatous element have been reported from time to time. It is, however, with the primary sarcoma arising during adult life that I propose to deal.

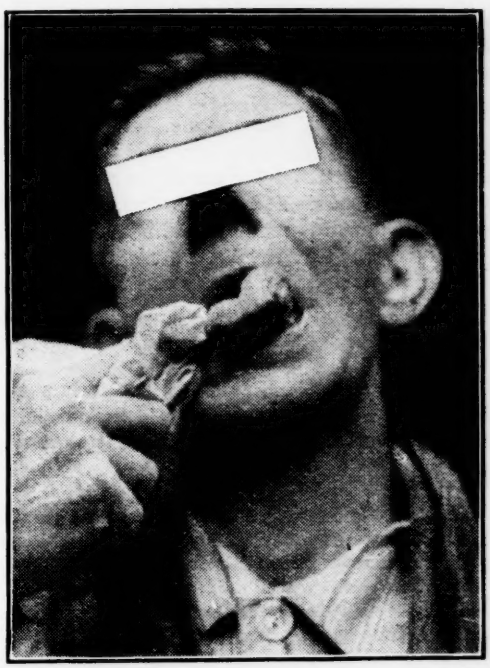
Symptoms

In a word these are the sensations produced by the actual presence of a swelling in the tongue. The onset is insidious and pain exceptional, the latter only occurring if secondarily produced ulceration is present. If the tumour is in the anterior two-thirds interference with speech will occur, if situated in the posterior third deglutition is deranged, in both instances the effect being mechanically produced by the presence of a mass in the substance of the tongue. Frequently the patient notices the lump himself. The later symptoms—ulceration, pain, both local and referred, haemorrhage, and foetor oris—are similar to those experienced by patients with carcinoma of the mouth.

Physical Signs

Sarcoma is seen most frequently in the middle and posterior thirds of the tongue, the anterior third being a most unusual situation. A swelling is found arising in the substance of the tongue and bulging on the dorsum. Its consistence is almost invariably firm and elastic. The covering epithelium is stretched on the dorsal aspect of the tumour ; it is sometimes blanched by the tension, or may exhibit dilated vessels. The epithelium on the dorsum is usually adherent to the tumour, while that of the ventral aspect appears normal and unattached.

Coughlin claims that ulceration frequently occurs, but this is contrary to the experience of most writers, who have found that ulceration only occurs where a large



tumour is in contact with irregular teeth. Fripp and Swan have pointed out that if the middle third is affected the lower part of the tumour may present as a rounded mass in the submaxillary triangle of the neck. Metastases in the cervical lymph nodes occur in a large proportion of cases ; 40 per cent. is quoted by some authors. Secondaries are occasionally found in the brain, lungs, peritoneum, etc.

Diagnosis

Carcinoma of the tongue of the nodular variety is the most likely condition to be confused with sarcoma. Providing the possibility of sarcoma is considered, the following points are helpful in distinguishing these two conditions. (1) As in other parts of the body, sarcoma of the tongue occurs rather earlier in life than carcinoma ; (2) pain is rarely experienced in sarcoma ; (3) a sarcoma is non-tender, and firm and elastic in consistence, whereas carcinoma is hard, craggy, and friable ; (4) even with the nodular variety of carcinoma there is usually a fissured ulcer to be seen just under the lateral border of the tongue. Ulceration in sarcoma only occurs opposite irregular or jagged teeth ; (5) sarcoma arises in the substance of the tongue and forms an intraglossal mass.

While these points of distinction may be helpful, the diagnosis rests on microscopical evidence. In this connexion Giuseppe Cirillo[13] has recorded a factor of interest. In his case of a small round-celled sarcoma the patient died suddenly a few days after the removal of a small piece

of the growth for microscopical section. He quotes Naegele as having a similar death two days following biopsy for sarcoma of the tongue. Cirillo states that he does not believe that the cause of death in either case was pneumonia, although in both there were some indications of lung involvement.

Prognosis

On this subject I shall confine myself to saying that from the published cases the prognosis is not so gloomy as might be expected, especially as the operative treatment of many of these has been restricted and inadequate. Of twenty-four cases quoted by Fripp and Swan, eleven patients were alive and well at periods varying from six months to thirteen years from the time of operation. The condition in the remaining thirteen recurred early, either locally or in the cervical nodes.

Treatment

I could find no record of any sarcoma of the anterior two-thirds being treated with radium. Numerous cases are recorded, as that of Simons,[14] in which *x*-ray therapy and radium had been used in the treatment of lymphosarcoma of the base of the tongue. In the past a wide removal of either the whole or half the tongue was recommended, sometimes followed by a bloc dissection of the cervical glands. I followed the latter teaching in my own case. I did not use radium for the tongue, mainly because the cut surface of the tumour appeared firm, fibrous, and relatively avascular when a small wedge was removed for biopsy. The microscopical appearance confirmed this relative avascularity. With regard to the neck, I performed a bloc dissection of the cervical glands on the same side, since I cannot help feeling that this procedure is more efficacious than superficial or interstitial irradiation in cases of secondary malignant glands.

Case Report

A male, aged 44, healthy in other respects, attended the out-patient department complaining of the rapid onset of a swelling of the tongue. He had no pain of any description, and there was no history of injury. On examination there was a swelling one inch in diameter and firm in consistence situated near the tip of the tongue on the left side (see figure). The swelling was intraglossal, and there was no ulceration of the covering epithelium, which was a little stretched over the convexity of the tumour. Protrusion was full, and there was no fixation. The cervical nodes were not palpable.

A small wedge-shaped piece of the tumour was taken for microscopical examination, and was reported by the pathologist as a round-celled sarcoma. Clinical and *x*-ray examination of the chest revealed no secondaries. Whitehead's operation was undertaken, the left half of the tongue, including part of the right half in the vicinity of the tumour, being removed. Three weeks later I performed a bloc dissection of the glands on the left side of the neck, and this was followed up by a course of *x*-ray therapy. The glands removed at operation were not sarcomatous when sectioned.

The patient is well and free from local and glandular recurrences at the time of writing, which is a year and a half after the operation.

Conclusions

1. Sarcoma of the tongue is a rare disease.

2. There are, however, several characteristic symptoms and signs which help to distinguish sarcoma from the nodular type of carcinoma.

3. Attention is drawn to the fact that small round-celled sarcoma occurs sometimes in the anterior two-thirds, suggesting that this type of growth is not, as has been frequently stated, a lymphosarcoma.

5. The prognosis appears to be less gloomy than might be anticipated.

I am indebted to Dr. T. B. Davie and Dr. Hugh Smith for examining and reporting on the microscopical sections.

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TREATMENT OF CHOLERA WITH A NEW ANTI-CHOLERA SERUM

PRELIMINARY NOTE

BY

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Since the introduction of saline transfusion by Sir Leonard Rogers little progress has been made in the treatment of cholera. The mortality rate is still very high; in the recent epidemics in the Central Provinces and Ganjam Districts it was over 50 per cent. Saline transfusion is only a means mechanically to replace the loss of fluid, but up to this time nothing has been found to counteract the toxaemic condition or the fatal vasomotor paralysis. During the height of an epidemic of cholera, when the mortality is high, death has been due mostly to vasomotor paralysis. The saline transfusion has often only a transitory effect; the pulse gradually sinks, and no stimulant can improve it. Excess of saline produces oedema of the lungs. Unless the toxin which produces the fatal vasomotor paralysis can be neutralized, further advance is not likely to be made in treating successfully the more severe cases of cholera. I thought that a potent anti-cholera serum might achieve this, and I accordingly began, three years ago, to try to isolate the toxin which is responsible for the acute symptoms.

Isolation of a Toxin

For long the attempt to isolate the real toxin which produced the acute diarrhoea and vasomotor paralysis in cholera was unsuccessful. I was trying to isolate the toxin while in charge of the biological laboratory of the Bengal Chemical and Pharmaceutical Works. In December, 1932, I made a communication on the "Nature of Cholera Toxin and Symptoms of Cholera" to the Scientific Section of the All-India Medical Conference.[1] In this I showed that by anaerobic culture of the cholera vibrio in a special broth a toxin could be obtained which, when injected in small doses intravenously in rabbits, produced cholera-like diarrhoea. I obtained sufficient corroborative evidence of the presence of a toxin in this medium by experimentally producing cholera-like diarrhoea in laboratory animals. The result was published in the *Comptes Rendus des Séances de la Société de Biologie* of Paris,[2] in which the technique of preparation of the toxin and experimental pathogenic action were described.

Preparation of Serum and Trial

This toxin was prepared from only one strain of cholera vibrio, as it was found to produce uniform toxin provided the medium was prepared exactly according to our formula. Conservation of the virulence of the strain was found to be as difficult as that of *B. diphtheriae*, and the production of toxin depended upon conservation of

the virulence. Our toxin is a filtrate of eighteen hours' broth culture. When injected intravenously into rabbits in repeated small doses it produced intense thirst and restlessness within a few minutes, and subsequently diarrhoea-like stool. With this toxin I attempted to immunize horses, the highest dose injected being 500 c.cm. At the end of the process of immunization I was astonished to find that the agglutinating titre of the serum was 1 in 8,000. This serum was then concentrated, and the agglutinating titre of the concentrated and purified serum was 1 in 12,000 of H agglutinin, and 1 in 1,600 of O agglutinin. I had no opportunity, however, of verifying the curative value of this serum except in laboratory animals. A previous injection of serum prevented experimental production of choleric diarrhoea with the toxin in laboratory animals.

Due to unavoidable reasons I could not proceed further with the experiment until the cholera epidemic broke out in Calcutta in the middle of March, 1934. The trial was made in the cholera ward of the Chittaranjan Hospital. In the beginning of the epidemic no serum was given to any patient, and the mortality was as high as 34 per cent. In the second week of April I injected this serum subcutaneously in a few toxic cases, but no appreciable result could be obtained with 20 c.cm. At that time I also tried ordinary polyvalent serum (prepared by different manufacturers of this country), both subcutaneously and intravenously, in doses up to 40 c.cm. The result was not only unsatisfactory, but there was distinct evidence of early setting in of uraemia.

Dosage Employed

I then began to inject my serum intravenously in doses of 20 c.cm. The result, though encouraging in mild cases having a specific gravity of 1060 or below, was not up to my satisfaction in highly toxic cases with higher specific gravity. I had then been thinking of intraperitoneal injection of my serum, in order to get the maximum amount absorbed through the same route as the toxin in the shortest possible time. At first, due to certain natural apprehension, the serum was not given intraperitoneally until the condition of the patient was hopeless. In one patient, admitted in a collapsed condition with a specific gravity of 1064, the result of the serum was so evident that I became more hopeful of success. When I was satisfied that the intraperitoneal injection was absolutely harmless, and could be easily given by a fine trocar and cannula specially made for the purpose, I began to inject 20 c.cm. after the first intravenous saline transfusion in all patients admitted in a collapsed condition. I am glad to say that some of the highly toxic cases were saved in this way. Control cases without serum, treated with calomel, ol. ricini, kaolin, etc., were maintained to compare the result of the serum treatment.

As my stock of serum was not adequate, and due to apprehension of uraemia, I was giving only 20 c.cm. of serum in the beginning, but I found, subsequently, that I might have saved a larger number of patients had I given sufficiently higher doses of serum. Such apprehension of causing damage to kidney by the sudden introduction of a large amount of albumin is natural in the beginning of experiments. The apprehension, however, was found to be baseless. In the latter part of the serum treatment a single saline transfusion and a single intraperitoneal injection of 30 to 40 c.cm. of serum, according to the severity of the symptoms, diluted with 200 c.cm. of normal saline, diminished the frequency of stool within two or three hours, and the patient usually passed urine within four to five hours.

In the beginning of our trial with serum calomel and menthol pill was adminstered to patients who vomited frequently ; later the only treatment was one saline transfusion on admission and the serum. In Chittaranjan Hospital the highest mortality was found to be during the latter part of April and the first three weeks of May, and then the death rate declined up to the end of the third week of June. During the last week of June and the first week of July the mortality again increased. Out of thirty-two cases treated during the second exacerbation of the epidemic, as evidenced from the increase in the rate of mortality in control cases, only four patients died, of whom one was admitted to hospital three days after the onset of the disease, one died of excessive purging following administration by mistake of high doses of sodium phosphate, which I was giving in the beginning of the epidemic, and the other two died within two hours of admission before the serum could be absorbed. The results of the serum treatment are given in the following tables.

TABLE I

Control cases	211
Deaths	73 (34.1 %)
Serum-treated series	198
Deaths	40 (20.2 %)

TABLE II

Cases treated with 30 to 40 c.cm. of serum...	32
Deaths	4 (12.5 %)
Control cases treated without serum ...	57
Deaths	15 (26.3 %)

The intraperitoneal injection appeared to us to be the route through which our serum acted best. The rationale of intraperitoneal absorption of serum cannot be easily disputed in cases of cholera, and I propose to discuss it further at some future time. The dilution of the serum with warm normal saline seemed to me to be important. I tried different quantities of saline, from 25 c.cm. to 500 c.cm., but 200 c.cm. was found to give the best results.

This method is quite easy with a trocar and cannula of small calibre. After a small injection of novocain on the left side of the lower abdomen 1½ inches from the median line and 1 inch below the navel, the trocar with the cannula is introduced to pierce the skin and the muscle ; the trocar is then withdrawn, and with a little twist the cannula easily pierces the parietal peritoneum and enters the abdominal cavity.

The results, though not entirely successful, were sufficiently convincing to indicate that a solution of this problem is likely to be reached by improving the potency of the serum. I am sure, from what I saw in those cases in which a larger amount of serum was given, that had I used a sufficiently large quantity in the beginning the results would have been entirely convincing. Unfortunately my stock of serum was exhausted before I could try it in another epidemic. I hope, however, to be able to prepare a sufficient quantity before the next epidemic breaks out in Calcutta.

REFERENCES

[1] *Journ. Indian Med. Assoc.*, July, 1933.
[2] Ghosh, H.: *C. R. Soc. de Biol.*, 1933, cxii, 476.

The German Association for Internal Medicine will hold its forty-seventh congress at Wiesbaden from April 8th to 11th, under the presidency of Professor Schottmüller of Hamburg. The first day will be devoted to a joint session with the German Association for Research into the Circulation, and the last day to a joint session with the German Association for Balneotherapy and Climatotherapy. Topics to be discussed include: medical problems relating to aeronautics ; blood diseases associated with the myeloid systems ; serological diagnosis from the points of view of the clinic and the general practitioner ; and gastroscopy, with special reference to gastritis. Inquiries about the congress should be addressed to Professor Schottmüller, Alsterufer 33, Hamburg 36.

Clinical Memoranda

DERMATITIS FOLLOWING GOLD INJECTIONS FOR RHEUMATISM

In view of the benefit derived from gold injections in some cases of arthritis, it is probable that it will be tried over a much wider field in the near future. I doubt whether the poisonous effects of gold are sufficiently known, and whether it is realized that it is necessary to use as much care in its dosage as in the administration of other metals, such as arsenic and mercury, with the poisonous properties of which we are familiar by long usage. Just recently I made the disconcerting discovery that the appearance of toxic symptoms from gold may be delayed until after a full course of injections has been given, and without the appearance of any warning signs. The circumstances were as follows.

I decided to give a course of gold sodium thiomalate to a female patient, aged 68, who had been suffering from a progressive general arthritis for six years. During this period vaccines, protein shock, medicinal treatment, and many forms of physiotherapy had been tried without benefit. The patient's general health remained good, and as she had become so disappointed by the results of all attempts to relieve the arthritis she had given up treatment. But as the increasing limitation of movement had confined her to a chair during the first six months of this year, and as she appeared to be nearing the stage when she would be quite bed-fast, I persuaded her to try the gold treatment by intramuscular injection.

The quantities injected were just below those recommended by the makers, and were as follows: 0.01 gram, 0.05 gram, and 0.1 gram, at intervals of seven days. In the absence of any toxic symptoms I decided to complete the first course by nine further weekly injections of 0.2 gram. This dose is put up in a 2 c.cm. ampoule, but on each occasion I injected exactly 1.75 c.cm. after thorough shaking of the oil emulsion, so that over the eleven weeks, including the three preliminary doses, the total dosage at the outside was 1.74 grams of gold sodium thiomalate.

I told the patient I should like to see her again one month after the eleventh injection. During this period she went away for a holiday, and on her return she informed me that about ten days after her last injection her mouth became sore and a general irritation had begun. Her appetite was good, bowel action normal, and she felt well; but the irritation was so severe that it prevented sleep. There was no rash except where she could scratch herself, and while it was perhaps fortunate that her crippled state prevented her getting her hands to many parts of her body, it made her condition all the more intolerable.

I tried alkaline lotions and mixtures for a week, and at the end of that time a general fine silvery scaling had appeared on the sides of the face and neck, on the lower back and abdomen, and on the buttocks and thighs. There were also some tiny painful ulcers in the mouth. During the following ten days I gave three intramuscular and six intravenous injections of ametox, glucose by the mouth, and half a drachm each of sodium sulphate and potassium citrate three times daily. Small doses of phanodorm, half to one tablet at bedtime, gave a few hours' light sleep. During the week a coarse scaly dermatitis developed over the abdomen, back, and thighs, with a fair amount of desquamation. It was not until the middle of November that there was a real improvement in the skin condition, and it was the end of the month before the patient was comparatively comfortable and the skin almost normal in appearance.

REMARKS

In the above case the only toxic symptoms were dermatitis accompanied by very intense irritation and slight ulceration of the mouth, but during the past six months I have heard of two cases of the treatment of arthritis by gold injections which terminated fatally.

In my case there were no warning symptoms until some ten days after the eleventh injection, and although no further doses were given the patient had two months' very serious discomfort, and there was no benefit as regards increase of movement or decrease of pain either during or after the course of injections. The case was not a favourable one in view of its resistance to prolonged treatment by various methods at my own and other hands, but there did not appear to be any definite contraindications.

The urea estimation before treatment was begun was 33 mg. per 100 c.cm., and the urine was examined for albumin the day before each injection, but none appeared. The sedimentation rate before treatment was 17.5 mm. per hour, corrected to 5 million red cells per c.mm., and was still 14.5 mm. per hour one month after the last injection.

I report this case for its obvious lesson that the gold treatment of arthritis is not without its dangers, even when all reasonable precautions are taken.

Harrogate. GEOFFREY HOLMES.

A SURGICAL PUZZLE AND THE SOLUTION

The following case seems of sufficient interest to merit record.

A healthy man, a railway employee, consulted me on account of a persistent sinus in the perineum, from which small fragments of wood had been discharged. The orifice of the sinus was in the skin overlying the bulbous urethra: a probe could be passed directly backwards from this for some five inches, and then its tip could be felt projecting against the anterior wall of the anal canal.

The history revealed that eight months previously, whilst bending over at some work on a railway truck, the patient was forcibly struck from behind by the metal handle of the brake lever, which had suddenly slipped off its ratchet. The blow was received just behind the anus, and here much bruising occurred a few hours afterwards. Eight days later he noticed a painful swelling in the perineum, and this eventually burst at the site of the existing sinus orifice and discharged pus and a small piece of wood, which he showed me. This was about half an inch in length and of the thickness of an ordinary match; it resembled a fragment of a thorn stem. Since then the sinus had persistently discharged pus, and some weeks later, when it was opened up at a local hospital, another fragment of wood, like the one he showed me, but much longer, was removed, while afterwards spicules of wood, like thorns, had occasionally been found in the discharge.

The question that at once challenged me was: how did these wooden fragments arrive in the perineum, and what was the relation of the blow to their presence? The patient was unable to throw any light on this question: the brake-handle being entirely of metal could not have driven such fragments into the part. Several other possibilities were considered and dismissed.

Close questioning, however, revealed that he was in the habit of defaecating in the fields, for his work lay on the open rail-track and made this the most convenient place. On these occasions he would secure the shelter of a hedge and in lieu of toilet paper a handful of grass. I do not doubt that this practice accounted for his trouble. The last act of defaecation before the blow was carried out in the fields; in wiping himself with long grass seized from the hedge-side he unknowingly implanted into his anal canal a cutting from the thorn hedge and in the squatting position with the anus everted he might easily do this at a sufficiently high level to avoid painful contact with the sensitive anal orifice. Contraction of the sphincters on completion of defaecation would effectively secure retention of the thorn stem. Before the next defaecation he received the violent blow behind the anus, which drove the thorn stem through the anterior wall of the rectum into the recto-vesical area; here the foreign material gave rise to suppuration, which tracked down below the urethra to the surface.

Subsequent operation—an excision *en bloc* of the track right back to the anus—upheld this explanation. The simple open-air life no doubt has its advantages, but evidently it is not wise for the disciples of this to discard all the refinements of civilization.

Manchester. H. H. RAYNER.

Reviews

"TAYLOR'S MEDICAL JURISPRUDENCE"

The ninth edition of *Taylor's Principles and Practice of Medical Jurisprudence*[1] has now been published. As in the case of the last edition, the editors are Professor SYDNEY SMITH and Mr. W. G. H. COOK, and, whilst paying due homage to the great Dr. Taylor, we think the work is perhaps now in better hands than it has ever been in all its long history. There are some textbooks which become classics, and of these "Taylor" is one. During its long life it has accumulated a vast amount of detail and illustrative cases which have been quoted the world over.

The last edition was published in 1928; since that date several changes in the law have taken place, notably the Mental Treatment Act, 1930, Dangerous Drugs Act, 1932, the Poisons Act, 1933, and the Children and Young Persons Act, 1933. During this period there has also been a new edition of the *British Pharmacopoeia*. These changes have called for revision of and additions to the text. Further, advances have been made on the scientific side which demand attention, such as the use of blood grouping, pregnancy tests, and ultra-violet light. The section on toxicology has been thoroughly revised; the methods of analysis have been brought up to date; new descriptions have been given and many of the older illustrative cases replaced by those of more recent date. This part of the work has been entrusted to Dr. C. P. Stewart, biochemist to Edinburgh Royal Infirmary, and co-translator of Leschke's *Clinical Toxicology*, recently reviewed in these columns. The Pharmacy Act, 1868, is still retained under the description of the sale of poisons, and a brief summary of the Pharmacy and Poisons Act, 1933, is given as an appendix at the end of the second volume.

A reference is made in the preface to a suggestion that a section on malingering might have been incorporated; but in view of the general nature of the work and the fact that several textbooks are already available on the subject, the editors decided not to make the suggested addition. These considerations would seem to apply with even greater force to the subject of workmen's compensation, which, unlike malingering, is changing not only from year to year but even from month to month, and to life insurance, which is now more a matter of general than of legal medicine. These two subjects are, however, still retained. Turning to the legal aspects, the additions necessitated by the Mental Treatment Act, 1930, have been made. Though a detailed description is given of the various legal procedures in England and Wales by which a mentally unsound individual may be placed under restraint, the procedure in Scotland is not discussed. The law in Scotland differs from that in England in many respects, not only in regard to insanity, but also court procedure, investigation of violent deaths, dying declarations, insanity, criminal responsibility, and other matters. No indication of these differences or description of the Scottish law in reference to these points is given. The Coroner's Court and proceedings are described, but the manner in which violent deaths are inquired into in Scotland escapes notice except for the statement that "it is as nearly perfect as possible" (page 19). Again, though space is given to a description of the essential points of a report for medico-legal purposes, we find no mention of the essential clause required by Scottish courts, without which the report is valueless; or, in the matter of criminal responsibility, that the doctrine of partial or lessened responsibility on mental grounds is admitted in Scotland. The Children's Act makes drastic changes in the methods of dealing with juvenile offenders; a change has also taken place in recent years in regard to adult offenders. Medical men are now often asked to advise in these matters, and a separate chapter devoted to this ever-growing aspect of medico-legal work would be of considerable value.

Taylor's Medical Jurisprudence purports to treat medical science as applied to the purposes of the law; in the course of its seventy years of life it has come to deal with Acts of Parliament, and indeed one of the reasons given for the present edition is the changes caused by recent Acts. Under these circumstances it may be suggested that in the next edition some description of the General Medical Council and the Medical Acts to which medical men owe their legal status might be incorporated. Despite the few omissions noticed, this new edition still further enhances the reputation of a masterpiece of learning.

[1] *Taylor's Principles and Practice of Medical Jurisprudence.* Edited by Sydney Smith, M.D., F.R.C.P., D.P.H. With a complete revision of the Legal Aspect by W. G. H. Cook, LL.D. Vols. i and ii. Ninth edition. London: J. and A. Churchill, Ltd. 1934. (Pp. 878 and 973; 47 figures. 63s. the two volumes.)

OPERATIVE GYNAECOLOGY

The English translation of an important work from the Frauenklinik in Vienna with its long record of pioneer work in gynaecology[2] will be heartily welcomed in this country. The first volume of the German edition appeared in 1930, the second during the past year, and the translation by Dr. Kraeer Ferguson of the University of Pennsylvania has been admirably carried out. The easy fluency with which he has made the American idiom replace the German reflects great credit on the translator. It is not possible in these columns to give more than an impression of this exhaustive and, of course, highly technical work. It will appeal mainly to the gynaecological specialist, but to him it will be invaluable.

The first volume deals with operative technique and with the surgical anatomy of the abdominal parietes and of the pelvic organs, including the blood vessels, lymphatics, and nerves. Much of the work in the latter section, we are told, is original, and although completed by the authors some time ago it has not been published before. It would be difficult to speak too highly of the coloured illustrations in this section; never perhaps have dissections been more clearly and beautifully illustrated. They are, however, semi-diagrammatic, and for that reason can be carried in the mind of the operator during his work more clearly than a precise anatomical picture. This section will well repay careful study.

The large second volume of 530 pages deals with the technique of the individual operations, which are beautifully illustrated in large coloured drawings of the same semi-diagrammatic character. To learn the technique of an operation from illustrated descriptions is a matter of great difficulty, but Professor Peham and his colleague have been very successful in furnishing gynaecologists with an opportunity of increasing their operative repertory by acquiring the methods they have described so clearly.

It will strike the English reader as curious that such a large amount of space (152 pages) should have been devoted to abdominal and vaginal operations for cancer of the cervix, while "irradiation therapy" is disposed of in three pages. Radical operations for cancer of the cervix have been abandoned almost entirely in France

[2] *Operative Gynecology.* By Dr. H. V. Peham and Dr. J. Amreich. With an introduction to the English edition by George Gellhorn, M.D. Authorized translation by L. Kraeer Ferguson, M.D. Vols. i and ii. London: J. B. Lippincott Company. 1934. (Pp. 779; 467 figures, mostly in colour. £5 5s. net the two volumes. Not sold separately.)

and Germany, and to a large extent in this country and the United States ; but it is perhaps not wholly unnatural that Wertheim's operation, and the recent modifications of it, should die harder in Vienna than elsewhere. Simple operative procedures such as the removal of an ovarian cyst are described with the same wealth of large coloured illustrations as the more complex operations. The description and illustration of a difficult operation for the removal of bilateral adherent ovarian cysts will be found to be particularly instructive. The operation of interposition of the uterus for prolapse, seldom practised in this country, is fully described and vividly illustrated.

Statistics of the results of various operations, going back to the year 1921, and constituting the personal record of the authors at the Viennese clinic, are very interesting and are of course uniformly good. The illustrations, which to the majority of readers will form the chief attraction of the work, are nearly all from the pen of the "anatomic artist" Herr Karl Hajeh. His work is certainly of a high order of merit, and it has been worthily reproduced. The publishers have furnished a very clear and generously spaced text, and these handsome volumes cannot fail to add to the already high reputation of the house of Lippincott.

MONILIASIS AND ASTHMA

The title of Dr. GORDON OLIVER'S monograph, *The Etiology and Treatment of Spasmodic Bronchial Asthma*,[3] hardly gives an indication of its contents. The book is an account of work which has been done in Jersey on the possible connexion between infection of the lungs with monilia and asthma. Part I consists of a brief review of the correct views of the aetiology of asthma ; Part II is of more interest, as it is devoted to the arguments in favour of the hypothesis that the monilia are responsible for all cases of asthma. The author definitely states: "Asthma is due to a mysotic infection." This is a very sweeping statement, and if substantiated would alter profoundly our conception of the aetiology of asthma. The author "holds no brief for the hereditary theory." In his opinion the occurrence of asthma is due to the infection with monilia being passed from one member of the family to another. The source of the infection, he thinks, is the milk supply. Treatment is based on: (1) large doses of potassium iodide (30 grains, t.d.s.) ; (2) vaccine therapy with the monilia ; (3) prophylactic treatment, consisting of boiling the milk. The author has had many successes with this treatment.

It would be unfair to say hastily that this hypothesis is mistaken, but it is so revolutionary that full proof should be brought forward before it can be accepted. So far this proof is lacking. No account is given of such procedures as skin tests with the monilia, nor an explanation offered as to the relation between moniliasis and egg sensitization, etc. For the hypothesis to be generally accepted much further work is required. But Dr. Oliver is to be congratulated on having stated clearly the lines on which this work—instituted, we believe, by Colonel P. J. Marett—is proceeding, and the results already obtained appear to be encouraging. It is possible that infection with monilia is more common in Jersey than in other places, and if the work were repeated elsewhere an interesting comparison could be made. As Professor Langdon Brown points out in a foreword, the work is worthy of careful consideration. To assist others in following up this work, however, the references should be given according to the usual custom.

[3] *The Etiology and Treatment of Spasmodic Bronchial Asthma.* By H. Gordon Oliver, M.D. With a foreword by W. Langdon Brown, M.D., F.R.C.P. London: H. K. Lewis and Co. Ltd. 1934. (Pp. 48 ; 10 charts. 3s. 6d. net.)

SURGICAL APPLIED ANATOMY

The last edition of *Treves's Surgical Applied Anatomy* was published in 1926, the revision being entrusted to Professor CHOYCE, who still retains the editorship in the ninth edition,[4] now issued. A difficulty has been felt in the present revision in maintaining the relation between the anecdotal surgical anatomy of Treves's time and the style of writing adopted at the present time. It has been found necessary to replace a good deal of what was more particularly characteristic of Treves, in the interests of anatomical and surgical detail. The editor has, however, succeeded in preserving the original character of the work, and the omissions and additions counterbalance, so that the size of the book remains unaltered.

In the section dealing with the head and neck the description of the dura mater and the arachnoid mater and villi has been enlarged, the location of obstruction in hydrocephalus is described, the account of the function and tumours of the pituitary body has been rewritten, as also the description of the development of the face. A detailed account of the methods of injecting the semilunar ganglion has been added, the description of the tongue has been amplified, and certain sections have been curtailed and rendered more concise—the account of excision of the maxilla, for example. In the part devoted to the thorax the accounts of the parathyroids and the vascular relation of the thyroid gland have been amplified, and directions are given for the performance of tracheotomy without skilled assistance. In the section dealing with the limbs, Kanavel's account of the palmar spaces is referred to, and the descriptions of the femoral artery and of the injuries occurring at the ankle-joint have been rewritten. In the section on abdominal surgery the thoracic duct has been redescribed and the advantages of the paramedian incision in laparotomy pointed out.

Treves's book leaves pure regional anatomy to a large extent to the systematic treatises, and deals principally with the bearing of the anatomy of the parts upon the circumstances of practice. As a concise and readable summary of the facts of applied surgical anatomy it still remains, after fifty years, without a rival, and has come to be regarded as a medical classic.

"THE LAST OF THE TABOOS"

Under the above title[5] and with the subtitle of *Mental Disorders in Modern Life*, Dr. ISABEL EMSLIE HUTTON has written a book of some 200 pages, which a note on the cover describes as of absorbing interest to the general public. It is explicitly addressed to "Every thinking member of the general public, to magistrates, coroners, social workers, and those interested in public work," all comprehensively referred to as "the intelligentsia." Written with an engaging simplicity, the book contains a good deal of interesting though not novel information of a historical and descriptive kind, and emphasizes once more the great need for the endowment of research and the importance of clinics, out-patient departments, and after-care in this branch of medicine. In other respects, however, throughout the work, and particularly in the final chapter on "The Future," in which are set out what purport to be fresh proposals, entirely erroneous statements of fact are so numerous that the uninstructed public may be misled. Fortunately those actually concerned with the care and treatment of the subjects of

[4] *Surgical Applied Anatomy.* By Sir Frederick Treves, Bt. Ninth edition, revised by C. C. Choyce, B.Sc., M.D., F.R.C.S. London: Cassell and Co. Ltd. 1934. (Pp. 720 ; 174 figures, 64 in colour. 14s. net.)

[5] *The Last of the Taboos. Mental Disorders in Modern Life.* By Isabel Emslie Hutton, M.D. London: William Heinemann, Ltd. 1934. (Pp. 204. 6s. net.)

mental disorders, including "magistrates, coroners, social workers, and those interested in public work," will be able to assess fairly well the author's degree of acquaintance with her subject.

Of the good intentions of the author there can be no doubt, for her avowed aim is to dispel the fantastic ideas which she says the majority of people still hold concerning insanity and all that pertains to it; but whether the effect, if any, of this book will be to fulfil its author's intentions or, on the other hand, to fortify the prejudices and suspicions which still linger here and there among the credulous public against the mental hospitals of this country, is doubtful.

Notes on Books

Mr. T. E. HAMMOND writes in a chatty and somewhat discursive manner on *The Constitution and its Reaction in Health*,[6] but he is intensely in earnest in his desire to inculcate due regard to mental and physical health. Although he quotes such recognized authorities as Jonathan Hutchinson and A. E. Garrod, he is catholic enough in his outlook to go further afield. Thus he has picked up proverbial wisdom from prize-fighters (for whom he appears to have a special liking), from inn-keepers, shepherds, and the captains of tramp steamers. It is all rather naïve and ingenuous, as may be gathered from the following. He was in the Gallipoli campaign when the question was put to him as to when a man was in his prime. "My answer was 21 to 25, to which no one took exception. Most of us were of that age. . . . In my opinion a man starts to be aged at 50." From the *Medical Directory* we take Mr. Hammond to be about 44; perhaps he may change his opinion in six years' time.

We have received a copy of "Dietary Composition and Vitamin B Requirements" (*Bidtrag til Spörgsmaalet om relationen mellem B-vitaminerne og ernaeringens indhold af protein, fedt og kulhydrat*), by P. VOGT-MÖLLER.[7] This monograph, which constituted a doctorate thesis, describes a method by which mice can be used for the quantitative study of the requirements of vitamin B complex. The author studied the amount of this complex needed with varying forms of diet. He found that mice on a carbohydrate-rich diet required a larger amount of vitamin B_1 (+ B_2) than did those on a well-balanced diet. On the other hand, animals on a diet rich in fats required less vitamin B than did those on a well-balanced diet.

A valuable brochure entitled "An Elementary Course of Design of the Anatomy of the Skeleton"[8] has recently appeared in France under the authorship of A. MOREAUX. It consists of thirty-three plates illustrating the drawing of outline sketches of the bones of the human skeleton step by step. Its size is no indication of its excellence, and a copy of this little book should be in every dissecting room. The actual text consists of three pages of introduction. The figures themselves are largely self-explanatory.

"The Treatment of the Sciatic Neuralgias"[9] is the title of a short monograph of some seventy pages by Dr. PIERRE MOLLARET, recently published in the series of New Therapeutic Measures issued by the Clinique Thérapeutique de la Pitié. The first half deals with the examination of the patient and a discussion on the various conditions grouped together under the name of sciatica. The second half deals with "minor therapy"—that is, rest, medicine, and external applications—and "major therapy"—that is, subcutaneous and paraneural injections (at the level of the sciatic notch, paravertebral, and epidural) and physiotherapy. There are no illustrations, but all therapeutic measures suggested are supported by references to the literature on the subject, from which fuller details may be obtained. A useful little book.

The little work entitled *Sex and Revolution*,[10] by Mr. ALEC CRAIG (who as we learn from the jacket has been prominent in sex reform and ethical work since 1930) consists of a series of papers or addresses which have been either read before the Federation of Progressive Societies and Individuals, the Ethical Union, and South Place Ethical Society, or published in the *Twentieth Century* and *The New Generation*. The book consists of eleven chapters, respectively entitled "Historical Perspective," "Caste Connubii," "English Family Law," "Police Courts and Justice," "Modern Sexual Ethics," "Abortion," "Russia," "Sex Revolution," "Sex Education," "Some Revaluations," and "Sexual Axiology."

A book with the intriguing title *The Casting of a Pebble*[11] has occupied Mrs. GREY TURNER for more than four years, during which its title has been changed at least once. The original object was to show that war is an anachronism, and that the nations should work together for peace; this *motif* has now become less prominent in the account of travels on the Continent and meetings of surgical congresses, that at Rome in 1921 containing an appreciative sketch of Mussolini, by an accomplished writer.

In *Vale*[12] the late Dean of St. Paul's recalls the custom in his time at Eton of showing up Latin elegiacs as a leaving exercise, and reviews his experiences. He mentions that he has taken the precaution of forbidding any memoir after his death, for he desires to be remembered, outside his family, only by his books, into which his message to the public has been set forth. In eugenics he has taken a keen interest, fostered by his friendship with Sir Francis Galton, and has been a member of the council of the Eugenics Society since its start. He was the first clergyman to face obloquy by urging that birth control should be discussed in just the same way as any other social or economic problem; whereas now several other well-known ecclesiastics openly advocate restriction of families. Having lived to see the whole edifice of nineteenth century civilization in ruins, and the world rendered permanently unsafe for democracy by the Great War, he feels that none of our institutions, certainly not the Church, has lost prestige to anything like the same extent as has the House of Commons.

The little work by Professor F. RATHERY on the Treatment of Typhoid Fever,[13] which forms the latest addition to the series entitled "Les Thérapeutiques Nouvelles," of which he is the general editor, gives a concise account of the subject, which will be chiefly of interest to those desiring information about current French practice. Treatment is considered according as it is ordinary or exceptional. The former includes hydrotherapy, to which apparently more value is attached in France than in this country; general measures; drugs, among which camphor and glucose hold the place of honour; and diet, which, contrary to the practice of London fever hospitals, is confined to fluids, not only during the pyrexial stage, but for three or four days after the morning and evening temperatures have become normal. Exceptional treatment consists of serum and vaccine therapy, from which Professor Rathery has derived no benefit; immuno-transfusion, which is specially indicated in intestinal haemorrhage; bacteriophage treatment, the value of which awaits confirmation; and various drugs, including colloid metals, trypaflavine, iodobismuthate of quinine, and novarsenobenzol. The treatment of the various clinical forms of typhoid fever and the principal complications also receive consideration.

[6] *The Constitution and its Reaction in Health*. By T. E. Hammond, F.R.C.S. London: H. K. Lewis and Co., Ltd. 1934. (Pp. ix + 160. 7s. 6d. net.)

[7] Copenhagen: Levin and Munksgaard. 1934. (Pp. 165.)

[8] *Cours Élémentaire de Dessin d'Anatomie du Squelette*. By A. Moreaux. Paris: Masson et Cie. 1934. (Pp. 44; 33 plates. 10 fr.)

[9] *Le Traitement des Névralgies Sciatiques*. By Dr. Pierre Mollaret. Paris: J. B. Baillière et Fils. 1934. (Pp. 72. 8 fr.)

[10] *Sex and Revolution*. By Alec Craig. London: George Allen and Unwin, Ltd. 1934. (Pp. 144. 4s. 6d. net.)

[11] *The Casting of a Pebble. A Book of Travel*. By Elsie Grey Turner. Newcastle-on-Tyne: Andrew Reid and Co., Ltd.; London: Simpkin Marshall, Ltd. 1934. (Pp. 315; 16 illustrations. 8s. 6d. net.)

[12] *Vale*. By the Very Rev. William Ralph Inge, K.C.V.O., D.D., Dean of St. Paul's 1911–34. London: Longmans, Green and Co. 1934. (Pp. 127; frontispiece. 3s. 6d. net.)

[13] *Le Traitement de la Fièvre Typhoïde*. By Dr. F. Rathery. Paris: J. B. Baillière et Fils. 1934. (Pp. 54. 8 fr.)

British Medical Journal

SATURDAY, JANUARY 12th, 1935

LONDON UNIVERSITY AND ITS MEDICAL SCHOOLS

The correspondence begun by Sir Ernest Graham-Little's letter in our issue of November 24th, 1934, has thrown light upon the complexity of London's educational problems. Sir Ernest, it will be recalled, drew attention to the fact that only some 50 per cent. of those who completed the preclinical course of the University of London eventually graduated in medicine, and suggested that those who had attained the level of general education implied by success at the second M.B. examination might at least be admitted to graduation. He urged that the usual practice of the senior English universities offered a precedent, if not in form at least in substance. It is not surprising, in view of the range of Sir Ernest Graham-Little's letter, that, while some of our correspondents have confined themselves to a discussion of his specific proposal to add another to the already rather numerous avenues to graduation, others have debated the general question of rendering the London M.B. if not more attractive at least more attainable.

So far as the narrower issue is concerned, the pros and cons of instituting a new method of graduation have been clearly stated by several correspondents. We think that the London student is at some disadvantage in comparison with the Oxford or Cambridge student, a disadvantage which in exceptional cases may inflict real hardship. We must, however, remember that hard cases make bad law. The ultimate decision in this matter must rest with those who will weigh not only the particular interests of medical students, but the general requirements of university policy. It is not a matter upon which the medical faculty of the university alone can claim a decisive voice. The wider issue—we speak, of course, from the professional standpoint, perhaps it would be more becoming to say the more strictly medical issue—of a reorganization of the medical course is a matter upon which judgement should be deferred until the report of the conference organized by the University of London is available. At this stage it is only permissible to offer a few suggestions regarding the spirit in which proposals should be examined.

No student of contemporary opinion will deny that our profession is exposed to a cross-fire of criticism. By some we are accused of ignorance of, or indifference to, recent additions to the technique of the healing art. Many of these critics have no very obvious medical or scientific credentials, but some of them are men of ability. On the other hand, some few persons of established scientific reputation have sneered at the inadequacy of the scientific training of the medical practitioner. That so few of the critics have themselves any personal experience of medical education, and that their criticisms sometimes cancel out, are good debating points, but only debating points. We pride ourselves on the fact that in the medical profession of to-day [unlike the profession of a century ago] there is no educational gulf separating him who aspires to command and him who will serve in the ranks. Therefore, so long as to have or to lack a liberal education—that is, an education fitting a man to take part in the best intellectual life of his day—is a criterion by which a professional man is judged, we cannot assess the value of a medical education wholly by the test of whether such or such of its contents are technically useful. We are seeking to produce not a technician but an educated man, and it would indeed be idle to proclaim that a youth of 17 has completed his general education. The educational reformer seeks to harmonize the general educational and the technical aspects of professional instruction. As a great London medical school in its choice of a motto from Terence proclaims, no human knowledge is alien to our art ; equally, of course, no technical instruction if wisely imparted is without general educational value.

There could hardly be a wider contrast in educational backgrounds than between the erudite John Freind of the early eighteenth century and that famous surgeon of the late nineteenth century who in his ward teaching used to meet all speculative hypotheses with the question: "Can you show it me on a plate?" But it is probable that the shrewd eighteenth century physician, with his store of ancient wisdom, might have been better equipped than the nineteenth century surgeon to separate the wheat from the chaff of our new, newer, and newest medical psychologies, and equally probable that the nineteenth century surgeon enforced upon his dressers, from the data of real human suffering, the valid processes of Socratic reasoning a good deal better than Freind would have done. The case against the higher education of Freind's day (or, of course, any modern equivalent) is that in only a small minority did the literary approach arouse a real intellectual interest in a knowledge of which "dead" languages were the mere vehicles. The case against the exaltation of practice over "mere" theory is that immature minds so easily mistake the accidentals of skilled practice for the essentials. That common mistake confirms the possessors of the fourth type of spurious courage, the sanguine, in their failing, and adds to the population of the fifth class—the men who are bold because they do not know what the danger is. Bold practitioners of these classes are not useful members of our profession ; they are as useless as the bookish pedants, and perhaps more dangerous.

It was believed by the reformers of the nineteenth century that experimental science used as an instrument of preclinical education was better calculated to arouse intellectual interest than linguistic training, and would

make possible a smoother transition from the mainly cultural to the partly technical training of a medical student. There is no doubt that they were right, but some doubt whether too much may not now be attempted; whether, as happened to the study of ancient literature, what should be educational may not have become itself too technical. The task of reformers of our day is to readjust the balance (if it has indeed been disturbed), keeping always before their eyes the end proposed—namely, the production of educated men and women. The fact that many fail to complete a curriculum is not a proof that the curriculum is bad: reform does not consist in merely making things easier. Any change which lowered, or was even generally believed to have lowered, the cultural level of the medical profession would be an almost unmixed evil. We ourselves do not rate the capacity of a lawyer or a clergyman by his knowledge of technicalities—which we do not understand—but by his trained mental powers as manifested in the discussion of topics common to all educated citizens. Even so, we also are judged. The gulf between Mr. Chillip and a country practitioner of to-day is wide. The superior esteem in which we are now held is at least as much due to the fact that we are more liberally educated than our great-grandfathers as to the fact that our technical efficiency is greater than theirs.

DISEASES PECULIAR TO CIVILIZED MAN

That clinical medicine is occupied with man as he is is implicit. Nevertheless, studies of man as he was or is becoming are often useful to gain perspective. The interesting work and delightful exposition of Sir Arthur Keith emphasized the structural modifications in man and the higher apes on assuming the upright posture, the tendencies to visceroptosis, hernias through the lower abdominal rings, and flat-foot. Von Bergman drew attention to the functional changes in man imposed by domestication. Habitual constipation as distinct from intestinal obstruction occurs only in dogs and human beings, in whom a conditioned reflex of retention of faeces until time and place are suitable for bowel evacuation has been developed by training. The comparison of diseases in man and animals has also afforded wider vistas of knowledge, and has been fostered by the meeting together of medical men and veterinarians. The study of rheumatism in equine and human species, of diverticulosis of the intestines in pit ponies and men, of the study of the association of rats and men in plague, of children and cattle in bovine tuberculosis, are examples of such useful collaboration. Of course, not all comparative physiology and pathology can be applied at once to man; but finding an experimental animal susceptible to a disease and having reactions analogous to man has time and again led to advances.

An entirely different line of study has been followed in the last twenty years by Professor George Crile on the phylogenetic implications of man's development in relation to his diseases, and has produced a stimulating book in which Crile discusses diseases peculiar to civilized man.[1] Primitive man shared with the wild and domestic animals activities to secure food, procreate, play, and sleep. With civilization came a new mental and emotional activity. Civilized man is the one animal that works all day and worries at night. The level of energy expenditure is one of the measures of the level of civilization. Thus the evolution of man involves the brain and its tool the hand, and also the gland that governs the rate of metabolism—the thyroid. Compared with animals, man has no better sense of direction or of equilibrium, no better vasomotor or respiratory centres, no better autonomic or ganglionic centres. It is the frontal lobe that is the unique gift of evolution to man, the frontal lobe which is the principal seat of associative memory. The baby thus enters the world with fully developed respiratory and circulatory centres, a sucking mechanism and the mechanism of sensation and emotion, but differs from other animals in having a blank undeveloped matrix in the frontal lobe upon which the action patterns and memories are to be imposed by training and education. The established mechanisms are the basis of racial memory or instinct; and in emotion it is racial memory that causes the heart to pound, the hands to tremble, the voice to become husky, the cold sweat to exude, the mouth to become dry, and the digestion to be arrested; for these are reactions of the animal to fear, the preparation for fight or flight. These racial memories cannot be completely controlled by the frontal lobe; they are evoked by the constant stimuli of fear and striving received by civilized man. In the man or woman who is predisposed by birth or temperament to excessive fears, worries, or strivings, or who, though normally poised, is excessively driven by misfortune, permanent changes may be wrought; so repeated activations in the kinetic system, the thyroid-adrenal-sympathetic mechanism, cause such excessive facilitation that normal stimuli produce abnormal reactions. Thus a hereditary predisposition played upon by adverse factors in the environment, or excessive strain in a normal individual, in one case may produce hyperthyroidism; in another may pathologically sensitize the adrenal-sympathetic system, bringing about a state of neurocirculatory asthenia; in another may "step up" the brain to its breakdown, or so facilitate the digestive mechanism in its activations and its inhibitions as to cause spastic colitis, hyperacidity, or peptic ulcer. In some individuals the glucose mobilization mechanism—a physiological reaction to give the muscles food in preparation for fight or flight—may become so facilitated that diabetes appears, while in others the excessive sympathetic stimulation to contraction of the

[1] *Diseases Peculiar to Civilized Man. Clinical Management and Surgical Treatment.* By George Crile, M.D. Macmillan and Co. (21s. net.)

walls of the blood vessels of the extremities leads to Raynaud's disease.

This is Crile's thesis. The comparatively recently developed frontal lobe is unable to control the lower mechanisms, and also must express itself through the patterns of the lower mechanisms. If the latter become excessive and give rise to perturbing symptoms, forms of disease appear. These may be brought about by infections, by lack of vitamins; but in the diseases directly associated with the stresses imposed by civilized conditions they must be dealt with in other ways than by immunization or the replacement of vitamin loss. Protection from stresses is necessary, and the periodic holiday or even complete retreat may give partial recuperation. But it is essential to remove the constant adrenaline stimulus to the sympathetic nerve endings throughout the body. Crile believes that this can best be done by denervation of the adrenal glands. He has found that removal of these glands is not an easy operation, and the results are less satisfactory than denervation. The operation is described, and results are given of the after-effects on patients suffering from the worry or stress syndrome. Of the cases quoted most have belonged to the group now called neurocirculatory asthenia, a type with which we became familiar as "D.A.H.," or "effort syndrome" in the war. In a series of seventy-six of these cases Crile has performed bilateral denervation of the adrenals with improvement or cure in 94 per cent. In hyperthyroidism much may be attained by removing more or less large portions of the peccant gland, but Crile claims that the thyroid is secondarily stimulated by excessive secretion from the adrenal glands, and that a more logical and more satisfactory treatment is denervation of these organs. In seventy-nine cases Crile claims for this method improvement or cure in 93.7 per cent. The operation has been carried out in thirty-seven cases of peptic ulcer, with improvement or cure in 96.4 per cent. Further results and the experiences of other surgeons will be awaited with interest.

DIPHTHERIA IN SOUTH WALES

Recent announcements in the daily press convey the impression that a grave form of diphtheria is prevalent in South Wales at the present time. If it is true that "gravis" and intermediate strains of *Cl. diphtheriae* are usually associated with more severe clinical manifestations of the disease, as most workers have found since McLeod and Anderson published the results of their investigations, the reports from various parts of the country that the vast majority of the organisms now isolated are of these types would lead us to expect a more virulent type of diphtheria. The question arises whether this is really so in South Wales. Until the reports of isolation hospital superintendents for 1934 are available, giving figures based on cases whose diagnosis has been confirmed, some information as to prevalence and fatality may be derived from the returns of the Registrar-General. The following table shows, for the years 1924 to 1933, the death rate under 15 years of age from diphtheria in England and Wales; the number of cases notified in England and Wales generally and in the four Welsh county boroughs (all situated in South Wales); the number of deaths in these two areas; and the case mortalities calculated from these figures. The cases notified in England and Wales and in the Welsh county boroughs and the deaths and case mortalities in the latter for 1934 are also given, the deaths during last year for the whole country not being available as yet.

	(1) Death Rate per Million under 15 Years	England and Wales			Welsh County Boroughs		
		(2) Cases Notified	(3) Deaths Registered	(4) Case Mortality Per Cent.	(5) Cases Notified	(6) Deaths Registered	(7) Case Mortality Per Cent.
1924	231	41,980	2,501	5.96	742	34	4.58
1925	262	47,720	2,774	5.81	652	47	7.21
1926	283	51,121	2,994	5.86	619	39	6.30
1927	257	52,194	2,732	5.25	738	45	6.10
1928	303	61,222	3,191	5.21	1,246	52	4.09
1929	328	62,840	3,446	5.48	1,609	96	5.97
1930	340	74,043	3,497	4.72	1,677	64	3.82
1931	258	50,290	2,673	5.31	1,298	49	3.77
1932	228	43,399	2,339	5.38	939	25	2.66
1933	261	47,435	2,646	5.58	1,148	61	5.31
1934	—	69,009*	—	—	1,515*	83*	5.48*

* Provisional figures from Registrar General's Weekly Returns.

Although rates based upon notifications have no value as an absolute measure of the fatality of a disease like diphtheria, which is subject to such a large error of diagnosis, they are likely to bring out any marked change in virulence over a series of years. From a study of columns 1 to 4 it will be observed that diphtheria, as usual, has fluctuated in prevalence in England and Wales, being especially high in 1928, 1929, and 1930; that the death rate among children has corresponded with the incidence fairly closely; but that the case mortality rates have been reasonably uniform, with the exception of that in 1930, the year of highest incidence, when the disease would appear to have been less than usually fatal. It may be noted that, judged by the number of notifications, 1934 was a year of sudden and high prevalence, and it will be interesting to see whether it has been distinguished by exceptional virulence when the records of deaths are published. When we turn to the Welsh county boroughs we find somewhat similar waves of incidence but much greater variation of case mortality, as might be expected of rates derived from a smaller number of observations. Again, however, some of the years of high prevalence have been marked by exceptionally low case mortality. As compared with large towns in England there has been no excess of fatality, and last year's records especially fail to rouse any grave concern in this respect. That there has been no sudden change of virulence in recent months is brought out by the following table, which shows the case mortality in the Welsh county boroughs in the four quarters of 1934.

	Cases Notified*	Deaths Registered*	Case Mortality per cent.*
First quarter	502	30	5.98
Second ,, ...	328	21	6.40
Third ,, ...	219	12	5.48
Fourth ,, ...	466	20	4.29

* Provisional figures from Registrar-General's weekly returns.

While the year has been one of high prevalence, and there has been the usual seasonal rise, which may be expected to continue into 1935, there is no sign of increasing virulence as the year has progressed. Examination of the statistics of the several boroughs confirms this view. For instance, in Cardiff, where the case mortality has been at the low average of 3.94 per cent. during the decennium 1924–33, it was 4.04 per cent. in 1934 and actually lower in the last than in the second quarter of the year. In Merthyr the fatality, as estimated from these records, is consistently high, the average for the ten-year period being 9.48 per cent. In 1934 it was 8.89 per cent., and during the last quarter 8.33, slightly lower than in the first and third quarters. Merthyr, with a population less than a third of Cardiff's, had almost the same number of cases and more than twice as many deaths during the year. The consistently high fatality in this town and its recent heavy incidence suggest a case for investigation, which would have to take into consideration not only the effect of economic depression on the health of the people, but also the proportion of young children, the completeness of notification, and the facilities for treatment. In the meantime, although there is a clear case for pressing on with immunization against diphtheria in South Wales, there seems to be no reason to believe that there has been any sudden or notable access of virulence either during the past year or in recent months.

CANCER RESEARCH IN MANCHESTER

Dr. Veitch Clark, medical officer of health for Manchester, records in his report for 1933 an account of specific investigations into cancer and mule-spinning, which have extended over eight years and have been brought to a highly successful conclusion. He believes that this is so far the only true preventive work in relation to malignant disease which is capable of practical application with definitely hopeful prospects. Dr. C. C. Twort, director of the Cancer Research Laboratory, and his fellow members of the Manchester Committee on Cancer, consider that they are now in a position to lay down a specification for a lubricating mineral oil which, while practically free from carcinogenetic properties, is producible on commercial lines. This committee came into being after the publication of the earlier memorandums on cancer by the Ministry of Health, has been under the chairmanship of the medical officer of health since then, and has worked in close co-operation with the local hospitals and associations interested in work on cancer. Since 1930 its research unit has been definitely under the supervisory control of the University Consultative Committee on Cancer, though by far the greater share of the cost of maintenance is still met by the Manchester committee. In addition to publishing various reports of researches connected with treatment and prevention, the unit set itself specifically to determine which oils could be considered innocuous and at the same time suitable as lubricants. Fully seven years' work has been devoted to this problem, involving over twelve million observations. A standard specification has now been drawn up for mineral lubricating oils, based upon physical characteristics which, if adopted in the cotton industry and for the lubrication of machinery in general, should reduce to a minimum the risk of cancer in workmen. Spindle oils, it has now been shown, should have a refractivity below 5520 when the specific gravity is above 895, or a refractivity below 5550 when the specific gravity is below 895. In calculating the refractivity constants the density at 60° F. is used. With a density at 20° C. the above refractivity values are each increased by 17, the specific gravity becoming 892 at 20° C. Densities at 60° F. were employed because these values were calculated from the observed specific gravities at 60° F., the standard commercial temperature. It is recommended that before work begins all parts of the body which are likely to come into contact with the suspected material should be smeared with an ointment made up of equal parts of anhydrous lanolin and olive oil. This should be well rubbed into the skin, an excess being avoided. When work is finished, the parts should be thoroughly washed with soap and water and carefully dried, a little of the ointment being again rubbed in so that the skin remains soft and pliable. These recommendations are all for workpeople exposed to the deleterious effects (whether the several forms of dermatitis, or warts, or cancer of the skin) of mineral oils or their products. As regards gas tar and its derivatives, the prevention of cancer presents certain difficulties, inasmuch as in certain circumstances the presence of lanolin mixtures has been found rather to favour the production of tumours, though as a rule there is a diminution. Much further investigation is therefore needed before a pronouncement can be made with adequate certainty upon the best method of protection against growths due to tars and their derivatives. A note on the latest report of the Manchester Committee on Cancer will be found at page 74 this week.

THE MIND OF THE CHILD

The importance of understanding the mind of the child must be obvious to everyone. Parents, educationists, social workers, psychiatrists, and, last but by no means least, general practitioners are constantly meeting situations in which an understanding of how the child looks at things is essential. Much work has been done by professional psychologists in this field in recent years. To the amateur such work has sometimes seemed rather superfluous, since everyone has more or less recently been a child, and therefore must be able to remember how he thought or felt at that stage of his existence. Nevertheless, it is remarkable how inexact the memory of previous stages in our lives may be, which accounts for many of the difficulties that occur between the successive generations of mankind. In no respect is this more striking than in the field of imagination. Children vary much in the nature and vividness of their images, and to about 50 per cent. these images

appear to have a real existence in the surrounding landscape, so that they cannot be distinguished from actual objects. This eidetic imagery tends to fade at or soon after puberty, and has a definitely useful purpose in the self-education of the child. Among these eidetic images which have for the child all the appearances of reality are imaginary companions, and Dr. Svendsen has lately published a study of these.[1] It may be pointed out that these images occurring as a normal phenomenon in childhood differ very little from corresponding phenomena in adult life, when they are called hallucinations, and regarded as of serious pathological significance. It would appear that descriptions of vivid and sustained imaginary companions are to be expected from about 13 per cent. of normal children. These children are usually "only children," or are separated from their siblings by long intervals. They are mostly of superior intelligence, but show some difficulty in adjustment to life, such as nervousness or timidity. The phenomenon occurs thrice as frequently in girls, and as a rule from the age of $2\frac{1}{2}$ to 6 years. Generally the imaginary companions are of the child's own sex, and while relatives sometimes are identified with these the images more commonly represent friends. These companions are intensely real to the child, and are visualized as occupying space. The exact nature of the personality of the imaginary companions and the child's relation to them appear to be socially determined, and consequently vary from case to case. The companions who occupy a subordinate role are as a rule addressed, while those who are superior in status are merely referred to. Activities shared with imaginary companions are usually those which are highly charged emotionally by virtue of being novel and pleasurable or humiliating and consequently painful. The play tends to reflect parental attitudes, particularly disciplinary attitudes, and the child's reactions to them. Such studies as these are important in illuminating the child's reactions to his own imagery and his comparison or identification of these with actual objects in his environment, and may serve to throw a good deal of light on what we call disease processes in the minds of adults.

[1] *Arch. Neurol. and Psychiatry*, 1934, xxxii, 985.

1,000 CONSECUTIVE LABOURS

The department of obstetrics and gynaecology of the University of Otago has issued a report on 1,000 consecutive deliveries and the concurrent work of the gynaecological section, the period covered being from January, 1932, to February, 1934. In New Zealand obstetrical patients are of a very standard type; there is no rickets, and the present generation of mothers is benefiting from the system of child welfare established by Sir Truby King a quarter of a century ago. Complications from disproportion are rare, and occur mainly among immigrant women who spent their childhood in the cities of Great Britain. The report gives no support to the current view that toxaemic conditions are unusually common in New Zealand. In a note on the work of the ante-natal clinic it is stated that in about 10 per cent. of the cases the position of the foetus did not conform to any of the four classical positions, but was intermediate between an anterior and a posterior position. To such cases the designation "lateral" has been given. Thus a left occipito-lateral position means that a foetus is in a position intermediate between a L.O.A. and a L.O.P. position, the back being directed laterally, and the sagittal suture being in the transverse diameter of the brim. This position is sometimes termed a "left occipito-transverse," but the word lateral has been chosen because it is geometrically correct. The occiput, being a "point," cannot occupy a transverse or other diameter. In practice it has been found that a foetus in a lateral position usually rotates to occupy an anterior position before or at the onset of labour. The value of careful ante-natal supervision is indicated by the fact that of the 934 cases which passed through the clinic only four needed a severe obstetrical operation to effect delivery. Of the remaining sixty-six emergency cases in the series thirteen were delivered by operative means, a percentage of 20. Medical induction is always tried, except in cases of placenta praevia, and the number of cases in the series is given as fifty-eight. If this fails the membranes are punctured, 10 to 15 ounces of liquor amnii being released, and a tight binder applied. The success of this method has led to the abandonment of other procedures since 1932. A table is given to show that induction by membrane puncture does not increase materially the duration of labour.

ON THE WAY TO MELBOURNE

The annual summer school meeting of the Vancouver Medical Association will be held from June 18th to 21st, and the hope has been expressed that some members of the British Medical Association may be able to attend, breaking their journey across Canada to Australia. This summer school has been organized annually since 1921, and has attracted some of the leading practitioners in Canada and the United States. One or more speakers would be cordially welcomed, and any additional expense thus incurred would be taken into consideration by the organizing committee. The secretary of the Summer School Committee is Dr. J. E. Walker, the Vancouver Medical Association, 203, Medical-Dental Building, Vancouver, British Columbia.

THE HALF-YEARLY INDEXES

The usual half-yearly indexes to the *Journal* and to the *Supplement* and *Epitome* have been prepared and will be ready shortly; they will, however, not be issued with all copies of the *Journal*, but only to those readers who ask for them. Any member or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

Sir Frederick Gowland Hopkins, President of the Royal Society, will deliver the Sir Henry Trueman Wood Memorial Lecture, on "The Study of Human Nutrition: the Outlook To-day," at the Royal Society of Arts, John Street, Adelphi, W.C., on Wednesday, February 6th, at 8.30 p.m.

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the major medical disorders met with in general practice

ACUTE PNEUMOTHORAX

BY

L. S. T. BURRELL, M.D., F.R.C.P.

Acute pneumothorax may occur as a result of injury, abscess of lung, carcinoma, or other gross disease. In the majority of cases, however, it is caused by tuberculosis or the rupture of an emphysematous bulla, and in this paper I shall deal only with pneumothorax resulting from one of these two conditions. At the same time it should be understood that the initial treatment in the case of an acute pneumothorax is the same whatever the cause may be.

The treatment depends upon the severity of the symptoms. These may consist of no more than slight shortness of breath ; or, indeed, there may be no symptoms at all. On the other hand, the pneumothorax may be ushered in by pain of such severity that a diagnosis of perforated gastric ulcer has been made, or by extreme dyspnoea quickly followed by death. In the mild cases all that is necessary is to keep the patient in bed, and the lung generally re-expands in a few days. However well the patient may feel it is not wise for him to be up and about, for this will delay re-expansion of the lung, increase the chances of complications, such as effusion, or possibly lead to a chronic pneumothorax. If the tear in the visceral pleura is valvular, air may be drawn into the pleural cavity by the deep inspiration following cough, and a pneumothorax at first too small to give rise to any serious symptoms will gradually increase and produce a dangerous degree of dyspnoea. It is essential, therefore, for someone to be with the patient during the first twenty-four hours, and if possible he should be in a nursing home or hospital, where immediate aid is at hand should it be required.

Relief of Pain and Dyspnoea

In severe cases the patient should be given an injection of morphine, grain 1/4, and immediate steps be taken to relieve the dyspnoea. To do this the skin and pleura should be anaesthetized with a 2 per cent. solution of novocain, and a Saugman pneumothorax needle, or a large aspiration needle, should be inserted into the pleural cavity—preferably through the fifth space in the mid-axillary line—and left as long as air can be heard whistling out. This is an emergency procedure, and the pressure must be relieved by putting in the needle without waiting for a local anaesthetic if there is none at hand. It often happens that air from the ruptured lung enters the pneumothorax cavity again as soon as the pressure has been reduced. In this case the needle should be left in the pleural cavity, being strapped to the chest wall to prevent it from slipping out. It should be connected with a rubber tube the lower end of which is in a bowl of water on the floor, thus making a water valve so that air can leave but not enter the pleural cavity by way of the tube.

The urgent symptoms having been relieved—pain and anxiety by morphine, dyspnoea by making an outlet for the intrapleural air—the patient should be left comfortably in bed propped up with pillows, and subsequent treatment depends on further developments, which may take one of the following courses.

The Straightforward Case

When the symptoms abate without complication the patient should be kept in bed until the lung has re-expanded, and, after a brief holiday, it is usually safe to let him return to his ordinary mode of life. If an effusion does not form and the lung re-expands in a week or two the condition is generally due to a ruptured bulla—an accident which happens chiefly in young men, is apt to recur, but is not tuberculous in origin and does not render the patient liable to develop tuberculosis in later life.

It is most important to keep the patient in bed during the initial stages however well he may feel, because re-expansion, which would take place in a week, or even in a few days if he is at rest, is often delayed for months if he is up and about. The longer the lung remains collapsed the greater are the chances of complications.

Lung Fails to Re-expand

When the patient remains in good general health and no effusion forms, but the lung shows no sign of re-expansion in spite of rest in bed, it is usually wise to remove from 500 to 700 c.cm. of air with a pneumothorax apparatus. The quantity of air removed should depend on the intrapleural pressure, which should be rendered negative but not reduced below −15 cm. water. If it is further reduced symptoms of faintness or even collapse may supervene. After removing air in this way the lung often re-expands, though the procedure may have to be repeated two or three times.

Clear Effusion

If an effusion forms the condition is probably tuberculous, and the effusion is clear and sterile at first. If it remains so the perforation may be regarded as having healed, and the case proceeds as an ordinary one of pleural effusion. It is possible that some of the sudden cases of effusion complicating treatment by artificial pneumothorax are due to a tear in the visceral pleura, which soon heals over after producing signs of increased intrapleural pressure, pyrexia for four or five days, and an effusion. The tear often takes place at the site of insertion of an adhesion into the visceral pleura, where there is a strain, especially during cough or exertion. The adhesion may keep the tear open, and so, if healing does not occur in a few days, examination with a thoracoscope should be made and the adhesion divided by means of the cautery if necessary.

Purulent Effusion

When the pneumothorax is followed by an effusion, clear at first but later becoming purulent and containing tubercle bacilli and possibly being contaminated by other organisms, the outlook is grave, because it often means that the perforation in the visceral pleura has not closed ;

unless it can be made to heal over the patient rarely lives for more than a year or eighteen months.

The pus should be aspirated and the pleural cavity gently washed out with a pint of a 1 in 4,000 solution of methylene-blue. If the perforation is patent the sputum will be coloured blue, and it will not be possible to use eusol or Dakin's solution for pleural lavage, as they are irritating to the bronchial tubes, which they would reach through the ruptured lung. If there is a large perforation in the visceral pleura the breath sounds are amphoric and have a metallic quality, and the bell sound is well heard. When a purulent effusion follows an acute pneumothorax, treatment depends on whether the tear in the visceral pleura has healed or remains open.

Closed Visceral Pleura

The perforation in the visceral pleura having closed, the pus should be aspirated and replaced with sufficient air to leave a negative pressure of from 10 to 15 cm. water, with the object of getting the lung to re-expand. The patient should be screened at weekly intervals, and if the pus reaccumulates the aspiration and gas replacement must be repeated. Aspiration should be as complete as possible, for otherwise a small, chronic tuberculous empyema may persist. If after two or three aspirations there are no signs of any re-expansion of the lung, the pleural cavity should be washed out with Dakin's solution. For this to be done the patient should lie on his healthy side. After the skin and pleura over the seventh intercostal space have been anaesthetized just below the angle of the scapula, a large aspirating needle should be inserted through that space into the effusion, with all aseptic precautions. The needle is connected with a 50 c.cm. syringe, fitted with a three-way cock, so that, a syringeful of pus having been withdrawn, the syringe can be turned to connect with a second outlet, through which the pus is expelled. It is then turned to connect with the third outlet, and 50 c.cm. of Dakin's solution are drawn up and injected into the chest through the first outlet. In this way it is possible to aspirate pus from the chest and introduce the solution as required.

While the aspiration is proceeding a Saugman needle, connected with a pneumothorax apparatus, is inserted into the pleural cavity in the fifth space in the mid-axillary line. If there is an air space oscillations will be seen on the manometer. If there is no air space and the needle enters the effusion, air should be introduced until the manometer shows oscillations. As the liquid is aspirated the intrapleural pressure will fall, and air should be allowed to enter so that the pressure is kept slightly negative. When the aspiration has finished, the end pressure should be from 10 to 15 cm. water. Both needles should then be removed, the skin cleaned with a little methylated spirit, and no dressing applied.

Gelatinothorax

If in spite of this pus re-forms, and the lung shows no sign of re-expansion, gelatinothorax[1] may be induced. The preparation consists of a 2 per cent. solution of gelatin in normal saline, and just before use acriflavine is added to make a dilution of 1 in 2,500. To introduce it into the pleural cavity the same three-way syringe described for gas replacement is employed. Some 50 c.cm. of the pus are aspirated and 20 c.cm. of the solution injected. This may produce a reaction, in which case it is best not to proceed with the treatment. Usually there is no idiosyncrasy, and three days later as much pus as possible should be aspirated from the chest, while the pressure is kept slightly negative by introducing air through a pneumothorax needle in the axilla, as already described. When the pleural cavity is empty 200 to 300 c.cm. of the gelatin and acriflavine solution are introduced. By this means the pleural cavity may be rendered sterile and re-expansion of the lung occur. If not, thoracoplasty is indicated.

[1] Crocket, J.: *Tubercle*, 1931, xiii, 97.

Patent Visceral Pleura

With the perforation in the visceral pleura open, the sputum will be stained by the methylene-blue introduced into the pleural cavity: on auscultation amphoric breathing is usually heard. If, as almost invariably happens, fluid forms and turns into pus, the prognosis is extremely grave. The fluid should be aspirated, and must not be washed out with Dakin's or any other solution which would irritate the bronchial mucous membrane. The pleural cavity should be made as clean as possible by the gelatin and acriflavine preparation, as described above. The general health of the patient should be improved by rest in bed—preferably on a balcony in a bracing, dry climate—by a generous mixed diet (but avoiding more food than the patient can digest), and by giving before meals a tonic such as liq. strych. hyd. ♏ iii, glycerini ♏ xx, ac. nit. hydrochlor. dil. ♏ xv, inf. gent. co. ad ℥ ss. The patient should also take daily a pint of barley water containing an ounce of glucose.

If the condition of the other lung permits, thoracoplasty should be performed as soon as the pleura is sufficiently clean and the general condition of the patient allows operation. But if, owing to the condition of the other lung, or for any other reason, thoracoplasty is contraindicated, it is usually best to make an intercostal drainage. To do this a tube is inserted between the ribs into the pneumothorax cavity and kept there. The other end of the tube is in a bottle on the floor beside the bed, so that there is continuous drainage for the pus, a great quantity of which would otherwise have been coughed up. This offers some hope, though a slight one, of getting the perforation to heal. If this happens, the intercostal drainage can be stopped and an attempt made to obliterate the pneumothorax cavity—preferably by obtaining a re-expansion of the lung, or, failing this, by thoracoplasty.

The annual report of the Rockefeller Foundation for 1933 surveys a wide field of work endowed or assisted in the medical, natural, and social sciences, the promotion of international health, and the assistance of original studies concerning the humanities. Commenting on it, Mr. Max Mason, president of the Foundation, indicates how economic, social, and political stresses in many parts of the world, giving rise to pressing problems of national and even international scope, must have a marked influence upon an organization which conceives its function broadly as aiding in the process of the rationalization of life. Intensive work has been devoted particularly to those studies which are likely to contribute more directly to the general problem of human behaviour, with the aim of control through understanding. Thus mental health studies have been endowed, and attention has also been paid to those sciences which can be developed to provide a basis for the rapidly evolving science of man. Special funds have been set aside for projects concerned with the present national and world situation. These include the planning of the recovery, relief, and reconstruction programme, and the settling in other lands of eminent European scholars displaced for political reasons. The report is illustrated by photographs of various branches of Rockefeller Foundation activities in different places.

L.C.C. HOSPITAL ADMINISTRATION

REPORT FOR 1933

"Brighter hospitals" is the keynote of Sir Frederick Menzies's introduction to that part of the annual report of the London County Council which deals with the forty-four general and thirty special hospitals now under its wing.[1] The County Medical Officer of Health says truly that the external appearance of many of the old hospitals or infirmaries which the Council took over under the Act of 1929 is irretrievably depressing. They stand in melancholy contrast to many recent examples of the hospital architect's work. Short of rebuilding, nothing can be done for their outside aspect, but the Council has set to work on their interiors, and now, if not, like Sion's daughter, "all glorious within," their brown paint and workhouse air have given place to something more cheerful, and patients on admission no longer feel that they are in the tomb already. Bright and pleasing decorative schemes as well as modern furnishing and equipment must react on the patients by raising their spirits, as well as on the staff by evoking pride in their institution. It is gratifying to find the greatest local authority in the world—an authority whose domain is a State rather than a locality—giving a lead in this direction.

MATERNITY AND ANTE-NATAL CARE

Sir Frederick Menzies recites with some pride what has been done at these hospitals for maternity and ante-natal care. There are now twenty-three maternity departments in the L.C.C. general hospitals, and new ante-natal departments have been created at ten hospitals. The birth rate in London is diminishing, but not at the county hospitals, where, in the year under review, 11,668 women were confined. In the same year the number of new patients seen in the Council's ante-natal clinics was 12,126, and the total attendances 57,854. For the first time it is possible to record the proportion of mothers delivered in the council hospitals after having had ante-natal care under the same auspices. Of the 11,668 women confined, 9,685 had attended the clinics. The number of deaths was eighty-four, and thirty-seven of the mothers who died had received ante-natal care under L.C.C. arrangements. There were also twenty-one deaths among women who had been confined before admission; fifty deaths from abortion (out of 3,000 cases); and eight deaths from ectopic gestation. The number of emergency cases and of abortion admitted to the Council's hospitals continues to be large, and would make any maternal death rate calculated on the basis of all mothers dying in the wards unduly high. It is stated that post-natal clinics are gaining ground, nearly twice as many women (3,079) attending in 1933 as attended in 1932. The practice of attending hospital for an overhaul a few weeks after confinement is slowly being inculcated, and is proving useful in detecting minor disabilities and defects at an early stage.

LONDON DISTRICT MEDICAL SERVICE

In the same report the district medical service comes under review. Up to the present two main methods have been followed in providing this service: one by part-time practitioners, and the other by whole-time officers on the staff of the Council's hospitals. This was the system which the L.C.C. inherited, and it was thought advisable that further experience should be gained before any general conclusion was reached as to the merits of the alternative methods, though certain minor anomalies have been rectified. The whole-time system has been discontinued in Kensington, Fulham, and Lewisham. Taking the county as a whole, the district medical services now comprise ninety-six medical relief districts served by part-time district medical officers, and ten districts served from as many county hospitals. During the nine months from April 1st, 1933, to December 31st, the part-time practitioners paid 32,861 domiciliary visits, and at the medical relief stations served by them 118,933 attendances were recorded, the corresponding figures for the medical officers on the staffs of the hospitals being 11,636 and 72,321.

It has been felt unnecessary to define precisely the nature of the supervision which medical superintendents of hospitals should be expected to exercise over part-time district medical officers. Generally speaking, it would be directed towards securing the closest possible co-ordination in the administration of the parallel services. Medical superintendents receive an increasing number of applications for admission direct from medical practitioners, including cases which in the past would have been addressed to the relieving officer, and would thus have come under the notice of the district medical officer. When unable to decide whether a case is suitable for admission, the medical superintendent is authorized to call upon the appropriate district medical officer to visit the patient and report, and the duty of acting as agent for the medical superintendent in such cases has been made a condition of appointment of district medical officer. The consultant and specialist facilities at the council hospitals are now at the disposal of these officers. Again, when there is a difference of opinion, persisting after ordinary methods of consultation, between the district medical officer and an insurance or other practitioner on a question of fitness for work, arrangements are available for a medical board at which both the district medical officer and the practitioner concerned have the opportunity of attending. During the year, 400 patients, insurance and other, with regard to whom further medical opinion was desired, were examined by medical boards. No final decision has been reached as to the basis of remuneration of the part-time district medical officers, and appointments made before March 31st next are on a temporary basis of provisional salaries.

FEVER HOSPITALS: LABORATORIES: AMBULANCE

In the special hospitals now administered by the Council the problems which have arisen on transference under the Act of 1929 have been less acute, because these hospitals, formerly under the Metropolitan Asylums Board, form a homogeneous group, and no considerable alterations by way of adaptation or enlargement have been immediately necessary. Very interesting memorandums from medical superintendents of the fever hospitals and a long series of statistical tables are embodied in the main report. Further progress was made during the year towards the completion of the scheme for the reorganization of laboratory services. This scheme includes the establishment of five group laboratories and the provision of a subsidiary laboratory at each of the general hospitals accommodating cases of acute illness. The total number of examinations carried out in these laboratories in 1933 was just upon 155,000. Finally, there is the work of the London ambulance service, which, in the accident section, responds to nearly 120 calls every day. The peak hour for ambulance calls is from 1 to 2 p.m., with a second peak, almost as high, at from 6 to 7 p.m.; the busiest day of the week is Saturday, followed by Friday, and the busiest month July, followed by August.

[1] *Annual Report of the London County Council, 1933.* Vol. IV (Part I). Public Health—General and Special Hospitals. P. S. King and Son, Ltd., Westminster. (2s. 6d.)

THE LONDON MENTAL HOSPITALS

A separate volume is concerned with the Council's services for the insane and the mentally defective.[2] The population left within the county tends to be raised, and tinues to increase, although the population within the administrative county is declining. The explanation is that large numbers of the migrants to the out-county areas are young persons, so that the average age of the population left within the county tends to be raised, and in such a population the number of persons coming under permanent care because of decay of mental power is bound slightly to increase. The lessened death rate in mental hospitals is also a factor. On the average of the past five years 172 additional beds a year are required in the mental hospitals, whose total population on December 31st, 1933, the last date covered by this report, was 21,523.

From the statistical tables some interesting facts emerge concerning these persons. If they are classified in 10-year age groups, the largest numbers are found between the ages of 45 and 54. Four-sevenths of the total are single persons, and one-twelfth are widowed. Among the certified patients the males are in the majority up to and including the age group 25 to 34, but after that the females show a sharp rise, and in the later ages, from 65 onwards, their numbers are double those of the males. Among the few voluntary patients the sex incidence is different, the males being in the majority at all ages, but the numbers are so small that no conclusions can be drawn. The 10-year age group in which the largest number of deaths of patients occurred in the year under review was from 55 to 64, and the group in which the largest number of recoveries were recorded was from 45 to 54. During the year 1,038 patients were discharged recovered and 1,333 died. Statistics are given showing the discharges on recovery during the last thirty-nine years. Since 1895 39,155 patients have been discharged as "recovered," of whom 12,476 have been readmitted to a London mental hospital, 4,312 of them within twelve months of their discharge.

Of the patients now in these mental hospitals 649 are of foreign nationality, more than one-third of them Russians. Very little use has been made in London of the powers under the Lunacy Act enabling patients to be boarded out in the care of relatives or friends. Only nineteen such patients were boarded out in 1933, of whom five relapsed. Rather more use is made of the other section of the Act permitting long leave of absence, and forty-two patients have been granted such leave under the arrangements of the Mental After-Care Association and the Central Association for Mental Welfare.

CARE OF THE FEEBLE-MINDED

In its capacity as local mental deficiency authority, the Council was called upon to deal with 1,216 new cases in 1933. The total number of living defectives who had been ascertained as subject to be dealt with, or who might become subject to be dealt with, was 16,019, of whom 6,073 were in institutions. A rather surprising list of occupations followed by defectives under statutory supervision is given; it includes factory hands and workers in some trades involving quite special skill, such as tailors, milliners, plumbers, and wireless workers, and even travellers and canvassers are represented in the list. The fact that with so large a population of mental defectives not in institutions only seventy-eight cases were cited at the police court in which mental defectives were charged with criminal offences seems a sufficient answer to those who lightly assume that feeble-mindedness must be associated with criminal instincts.

[2] Ibid., vol. vi. Mental Hospitals and Mental Deficiency. P. S. King and Son, Ltd., Westminster. (1s.)

In an appendix to the report Dr. F. L. Golla, pathologist to the mental hospitals and director of the central pathological laboratory, describes a number of investigations which have been proceeding in different mental institutions, the results of some of which have already been published in various medical journals. He states that the pessimism with which the investigation of insanity is sometimes regarded is unjustified, witness the manner in which insanity due to syphilis has yielded to treatment, and the value of treatment in an increasing number of cases in which mental disorder is found to be due to bacillary conditions. He adds that there are indications that certain other forms are referable to the disequilibrium of the organs of internal secretion, and that these should, when better understood, be amenable to organotherapy; while in the yet more numerous class of mental disease due to profound disturbances of the metabolic processes, these disturbances are being studied with a view to treatment. But while the amount of public money spent on the maintenance of the insane is in the neighbourhood of seven millions a year, the expenditure on research is at present very small when compared with that obtaining in other branches of medicine.

VINETHENE

BY

SIR FRANCIS E. SHIPWAY, K.C.V.O., M.D.CANTAB.
SENIOR ANAESTHETIST TO GUY'S HOSPITAL AND TO ST. PETER'S HOSPITAL FOR STONE

The anaesthetic properties of certain unsaturated ethers have been studied by Leake and Chen,[1] who in 1930 predicted that a compound combining the chemical characteristics of ethylene and di-ethyl ether—namely, divinyl oxide or vinyl ether—would be a general anaesthetic, and better than any unsaturated ether with a greater number of carbon atoms in the side-chains.

The preparation of pure vinyl ether was undertaken, and has been described, by Ruigh and Major.[2] Considerable difficulties were experienced before success rewarded their persistence. The physical properties, vapour pressure, and electric moment of vinyl ether have been investigated and determined by Miles and Menzies[3] and Smyth and Walls,[4] whilst its anaesthetic properties and pharmacological action have been investigated in mice and dogs by Knoefel, Guedel, and Leake.[5] They found in dogs evidence of less irritation than with chloroform or ethyl ether. Cardiac action was but slightly affected, even in relatively deep anaesthesia, while the blood pressure was well maintained even after respiration had stopped for ten minutes. Respiration spontaneously recovered after withdrawal of the anaesthetic. The disturbance of the acid-base equilibrium and of the blood sugar was slight. When administered by the drop method to dogs, anoxaemia being likely, slight pathological changes were noted in the kidney, but when given for two hours or more, or daily for ten days for thirty minutes, by the carbon dioxide absorption technique, no abnormality was noted in any tissue examined. They conclude that in rapidity of action, in production of relaxation, in promptness of recovery, and from the point of view of physiological and pathological effects, vinyl ether is superior to chloroform or ether.

ACTION ON HUMAN BEINGS

To Samuel Gelfan and Irving R. Bell[6] of the University of Alberta, Canada, belongs the credit of investigating its action on humans. After obtaining a supply of the pure product from Professor C. D. Leake of the University of California, where the original research was carried out, Gelfan inhaled vinyl ether on two occasions, for periods of ten to eighteen minutes; it was also given to a

volunteer, Dr. Winifred Hughes, for five minutes. A few minutes after the withdrawal of the anaesthetic, which had been administered to the point of producing unconsciousness, muscular relaxation, and loss of skin reflexes, recovery was complete, without vomiting or nausea, and both subjects were able to continue their duties shortly after the anaesthesia. They concluded that the result of the animal experiments by Leake and his associates, and their own experiences, showed that vinyl ether was worthy of a clinical trial.

Goldschmidt, Ravdin, Lucke, and others[7] have shown that the concentration of vinyl ether in the blood of the dog necessary to produce anaesthesia is 28 mg. per 100 c.cm. of blood, of ethyl ether 116 mg. per 100 c.cm., of chloroform 37.5 mg. The anaesthetic potency of vinyl ether is thus about four times that of ethyl ether, and is slightly greater than that of chloroform ; in the human, according to these authors, the potency is seven times that of ethyl ether. The ratio between the anaesthetic concentration and the point of respiratory failure in the dog is 2 : 4, as compared with 1.0 : 1.3 for ethyl ether ; for chloroform the ratio between the anaesthetic dose and the point of cessation of cardiac action is 1.0 : 1.5. Their pathological studies in dogs and monkeys are of considerable interest, and have a definite bearing upon the place that vinyl ether may find in anaesthetic practice.

Liver necrosis of the same type, but less extensive than that following chloroform anaesthesia, has been found in well-fed dogs after two to three hours' anaesthesia, but not after shorter periods. Monkeys, whether well fed or starved, show complete immunity. Bromosulphalein dye tests of liver function in parturient women, and in dogs after repeated administration, point to the harmlessness of vinyl ether.[8]

REPORT ON ITS USE

A supply of this anaesthetic was generously placed at the disposal of the Anaesthetic Committee of the Medical Research Council and of the Royal Society of Medicine in 1933 by Messrs. Merck and Company, U.S.A., who are the manufacturers ; further supplies have been sent from time to time. The preparation has been given the name of "vinethene." At a recent meeting of the committee Dr. Hans Molitor, the pharmacologist, and Dr. Randolph Major, the chemist, who were making a short stay in London, were present by invitation, and gave the latest information about vinethene to the members, two of whom —Dr. C. F. Hadfield and the writer—have been using it for some months. The committee has also furnished supplies to Dr. C. Langton Hewer, who has used it in eighty cases ; and it has also been used in a few cases by Dr. H. Featherstone, Dr. A. L. Fleming, Dr. I. Magill, Dr. L. D. Marston, and Dr. H. J. Simmons. Their reports are incorporated in this paper.

Vinethene is vinyl ether, CH_2 : CH.O.CH : CH_2, with the addition of 3.5 per cent. of absolute alcohol and 0.01 per cent. of a non-volatile oxidation inhibitor. It is a clear, colourless liquid, except for a purple fluorescence, having a specific gravity of 0.77 and a boiling point of 28.3° C. It possesses a characteristic odour (of garlic), is highly inflammable, and is about as explosive as ether. Its vapour is denser than air. It should be kept in well-stoppered containers in a cool place, remote from lights and fires. It should also be kept free from contact with the slightest trace of acid, since it is decomposed by acids to form aldehydes, one of which is formaldehyde. Vinethene left in a bottle should not be used more than twelve hours after the bottle has been opened. It is possible that this precaution is no longer necessary, as Dr. Randolph Major informed the committee that he thought the problem of stabilizing vinethene had been solved. At the present moment, however, it would be wiser to maintain this precaution, for it is clear from the literature and from a knowledge of the chemical formula that the manufacture of pure vinyl ether is troublesome, as it is highly reactive.

Vinethene has been used in several thousand cases in the United States and in Canada, and in 314 cases by the collaborators of this report. The ages of the patients in our series have ranged from 2 to 78 years, and the operations have covered almost the whole field of surgery. It is a most interesting anaesthetic. It possesses the best characteristics of ethylene and of ether without their disadvantages, being extremely rapid in action, not unpleasant to inhale, non-irritating to the respiratory passages, with a theoretically wide margin of safety—even when given to the stage of overdose—and a rapid recovery free from unpleasant after-effects, particularly vomiting. Induction is quiet, and consciousness is lost after a few inhalations. The anaesthetic concentration in the blood is rapidly reached. Complete muscular relaxation has not always been obtained. Respiration is quiet and regular ; the rate is often faster than is met with during ether anaesthesia. The fall of blood pressure is slight.

"OPEN" OR "CLOSED" ADMINISTRATION

Vinethene can be given by the open method, being dropped on to the mask at the rate of about sixty drops per minute, or can be used by the closed method, allowing oxygen or nitrous oxide and oxygen to flow through or over it. A preliminary administration of atropine is recommended, although it is not essential for quite short administrations. Morphine and atropine can also be used. Its extreme volatility renders it a wasteful anaesthetic by the open drop method, except for brief anaesthesia—for example, in out-patient surgery, or in infants and young children—further, an even anaesthesia is difficult to maintain. Owing to the slight risk of impairment of the liver function if the oxygen content of the blood is cut down, the manufacturers recommend that vinethene should not be given by the open drop method for more than thirty minutes. This instruction clearly visualizes a method which should more rightly be called "semi-open."

No doubt this precaution could be relaxed if oxygen were given throughout the administration, but this method offers, as already suggested, no advantages over the closed method with oxygen, which provides economy of consumption and smooth anaesthesia. The manufacturers also recommend that this method should not be used for more than one and a half hours. Two deaths from liver necrosis occurred at the Johns Hopkins Hospital, Baltimore: the duration of anaesthesia was respectively two hours forty minutes and one hour forty minutes. I have administered it combined with nitrous oxide and oxygen for one hour thirty-two minutes, for an operation for cholecystitis on a man aged 73 years, suffering from jaundice ; he made a perfect recovery. I have also given it combined with avertin, nitrous oxide and oxygen, on two occasions, for operations on the gall-bladder, and on sixty-two other occasions for abdominal, renal, prostatic, and other operations. In no case has harm resulted.

In this connexion it is of interest to note that avertin belongs to a group of drugs which have a toxic action on the liver: the combination of avertin and vinethene should therefore, on theoretical grounds, be dangerous. Clinical experience, however, lends no support to the view, based upon pharmacological and slight experimental evidence, that avertin is appreciably toxic to the liver. Even in the presence of liver damage it has been used without apparent harm.[9] Our experience with vinethene is in agreement with that of Goldschmidt, Ravdin, and Lucke, who have had no evidence of liver damage after any of their 461 administrations, and with the experimental and clinical findings of Bourne.[8] No impairment of kidney function has been noted by us after its use for prostatectomy, nephrectomy, or pyelolithotomy. Cardiac disease is not a contraindication. The absence of pulmonary complications is a striking feature. One of us (C. L. H.) anaesthetized a boy suffering from bronchopneumonia following measles for a bilateral acute mastoid operation. He made an uninterrupted recovery.

DANGER OF OVERDOSAGE

It is essential to bear in mind that owing to the high volatility and potency of vinethene the amount necessary to produce anaesthesia is very small, particularly when it is given by the closed method. Experience with it

should be gained in minor surgery before more lengthy cases are undertaken. A death from asphyxiation following overdose was reported from St. Mary's Hospital in 1934. A useful and unmistakable sign of commencing overdose is the onset of rapid shallow breathing ; this is quickly relieved in consequence of rapid elimination, and should not cause undue anxiety, as cardiac action continues for several minutes in animals after cessation of respiration. In the ill or enfeebled patient, however, recovery may not be so prompt or so certain, although it should compare favourably with ether in this respect. Death takes place from respiratory failure.

Recovery, even from deep anaesthesia, takes place in a few minutes ; the possibility of pain must be foreseen and met by a timely injection of a sedative. The smell of vinethene has proved objectionable to some surgeons and anaesthetists. It can be removed by the addition of oil of bitter orange, or oil of peppermint, immediately *before* administration, or largely prevented by the use of the carbon dioxide absorption technique.

CONCLUSIONS

1. Vinyl ether has been shown in animals to be a good anaesthetic with a wide margin of safety. In overdosage the respiration stops before the heart. Metabolism is not seriously affected.
2. It is highly inflammable.
3. In man the evidence up to date shows that vinyl ether is a good anaesthetic, is not irritating to the respiratory passages, usually provides adequate muscular relaxation, and shows a remarkable absence of after-effects, particularly vomiting.
4. Owing to potency and rapidity of action greater care has to be exercised to avoid overdosage than is the case with ethyl ether.
5. Whatever method of administration is employed, anoxaemia must be avoided.
6. Until further clinical experience has been gained vinyl ether should not be used for periods longer than one hour and a half, in view of the slight possibility of damage to the liver.

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The annual report for 1933–4 of Livingstone College, Leyton, states that eighty-three missionary students received training in the twelve months with a view to their being able to render simple medical services to outlying districts which are entirely without hospital facilities. The College also instructs those about to proceed to work over-seas with regard to the preservation of health in tropical or otherwise unhealthy climates. The report contains extracts from letters from Brazil and India, illustrating the value of the training thus rendered possible. It is being generally recognized that the larger mission hospitals, staffed with medical practitioners, cannot meet all the urgent needs of sick folk in the remote forest villages and jungle settlements, and that their work can be most usefully supplemented by those who have had such special training as Livingstone College provides. The sessions last for one year, for six months, or for three months, according to the amount of time the students can spare. There is also a month's vacation course, while some are accommodated for even shorter periods when necessary.

India

Bombay Mental Hospitals

The various mental hospitals in the Bombay Presidency were so grossly overcrowded during 1933 that it was found necessary to abrogate the arrangements by which patients had been received hitherto from other provinces. The principal types of mental disorder or defect treated were mania (898), melancholia (551), dementia praecox (324), insanity due to *Cannabis indica* or its derivatives (121), delusional insanity (126), idiocy (49), and imbecility (155). The total population of the mental hospitals during the year under review was 2,895, as compared with 2,284 in 1932. In his general report on these institutions Lieut.-Colonel K. G. Gharpurey, I.M.S., officiating surgeon-general with the Government of Bombay, points out the gratifying fact that the readmissions in 1933 numbered only twenty-five as compared with eighty-four. A summarized report of the Central Mental Hospital at Yeravda is published as an appendix to the report. In it attention is drawn to the high rate of recoveries compared with the number of direct admissions—namely, 38.8 per cent.—while the rate of those discharged as "improved" was 21.5 per cent. In view of the overcrowding, financial stringency, staff shortage, and other prevailing handicaps these figures are considered exceptionally good. The length of residence of patients in the hospital who were discharged as "recovered" ranged from fifteen days to ten years, while that of patients discharged as "improved" ranged from twenty-one days to thirteen years. The respective numbers of patients discharged as "recovered" and "improved" with less than three months' residence were thirty-three and nineteen, while those with less than six months' residence numbered thirty and twelve, a rate of 32.6 of the total admissions. This ratio is regarded as very satisfactory, since experience has shown that, when more than six months' stay in a mental hospital is thought necessary the diagnosis is usually psychosis of a grave or very chronic nature. The medical staff has not been increased since the hospital was opened, though the number of patients has been trebled ; the facilities for treatment cannot therefore be considered as good. Occupational therapy occupies a prominent place in treatment, and the value of team games has been evident. The hospital is well supported by local residents, who take an active part in organizing social events within its walls and excursions outside.

Preventive Medicine in Assam

Colonel J. P. Cameron, I.M.S., inspector-general of the civil hospitals of Assam, supplies in his report for 1933 examples of the progress of preventive medicine along various lines. The Government continued its grant of 25,000 rupees to the Assam Medical Research Society, which has actively investigated problems associated with malaria, cholera, and dysentery ; its work on pneumonia and the anaemia of pregnancy had to be discontinued owing to lack of funds. A cheap method of malaria control by the use of rice bran as a diluent for Paris green was tried, and proved successful, but field experiments on the value of plasmoquine in reducing malaria were indecisive. In the plains of Assam, where often the vector mosquito incidence is high and the infectivity rate is considerable, treatment with plasmoquine to reduce the number of gametocyte carriers is of doubtful value owing to constant reinfection. In one area, however, the mosquito rate has been reduced, and there plasmoquine appeared to be of definite value in decreasing the numbers of gametocyte-carrying children. Bacteriophage continued

to be used for the treatment and prevention of cholera. In one district (Nowgong) where it is systematically distributed to the headmen of villages the mortality was 0.036 per 1,000. This is the fourth year in succession in which this district has had no outbreak of cholera. Another experimental distribution took place in Habiganj, every village being supplied by July, 1933. The northern half of this district forms part of the delta of the Barak River, the rest of the delta comprising Sunamganj, North Sylhet, and Karimganj. In September cholera broke out in Cachar on the banks of the upper reaches of this river, and the infection swept down the valley to the delta. Karimganj had 923 cases with 381 deaths ; North Sylhet had 955 cases with 493 deaths ; and Sunamganj had 2,586 cases with 1,361 deaths. Habiganj had only 106 cases and forty-five deaths. These figures contrast vividly with an exactly similar epidemic in 1927, when Sunamganj had 1,443 deaths and Habiganj 1,500. In Cachar, since the two adjacent valleys of Silchar and Hailakandi were both infected under comparable conditions, bacteriophage was used in Hailakandi while vaccination and essential oils were employed in Silchar. The ease with which bacteriophage could be usefully distributed was shown by the ratio of the treated to untreated cases in each valley. With one-sixth of the staff the ratio of those treated with bacteriophage to those untreated was 5 : 1 in Hailakandi ; whereas in Silchar the proportion of cases which received vaccine or essential oils to the untreated was 7 : 8. For both valleys the mortality in the untreated cases was 70 per cent. Those vaccinated without other treatment had a mortality rate of 58 per cent., while those receiving essential oils had a mortality of 37.6 per cent. ; this contrasts with a rate of 20.7 for bacteriophage-treated cases. Silchar Valley for 1,488 cases had a total mortality of 53.6 per cent., and Hailakandi for 935 cases a mortality of 31.9 per cent. Laboratory investigations confirm the effectiveness of bacteriophage. In dealing with the cholera epidemic in Cachar and Sylhet it became necessary to mobilize all available medical forces to deal vigorously with the situation at no small personal risk to those concerned, whereas the campaign in Hailakandi was much less arduous.

Health Education in Burma

In his report for 1933 on the public health administration of Burma, Major E. Cotter, I.M.S., officiating director of public health, states that there is now apparent a growing sense of the importance of public health among the intelligentsia. Health education has been carried on in the schools for ten years ; health lectures are becoming fashionable, and the high infantile mortality rate has begun to excite comment. The Press has been generous in giving publicity to health matters, not only by the publication of educative articles, but also in drawing attention to glaring instances of neglect on the part of local bodies to provide reasonable standards of sanitation. One of the root causes of the high infantile mortality rate is the gross maternal ignorance. The growth of child welfare work depends on the supply of trained health visitors, and unfortunately the number of such workers available in Burma is at present very small. It is now recognized that the establishment of a health school in Rangoon for their training is an imperative and urgent necessity ; for the last three years attempts have been made to organize it, but unsuccessfully so far, though it is hoped that the difficulties will soon be overcome. In this effort the Indian Red Cross Society has played a prominent part. Its Burma branch arranged a health week exhibition early in 1933 ; this was divided into sections, each dealing with a special phase of public health activity. In the women and children's section a replica was shown of a free, as well as of a private, ward in the Dufferin Hospital. The Baby Welcome Child Welfare Centre, Kemmendine, was represented by a clinic where routine weighing, the examination of infants and young children, the advising of parents on infant care and mothercraft, etc., were carried on each day. An exhibit on the feeding of toddlers showed the daily diets suitable for children from weaning up to the age of 5, with a demonstration on the preparation of the foods used. In the dental hygiene section there were excellent models, charts, and diagrams illustrating dental diseases and their prevention. In the malaria section there were four sets of model exhibits showing how insect-borne diseases are contracted. During the week intensive health propaganda was conducted by means of lantern lectures, cinema shows, and lectures on health topics, and by the distribution of pamphlets. A health play was staged each evening. The whole exhibition was highly popular, and stimulated great interest in health matters. The hygiene publicity bureau has been very active, lectures and teaching being provided at various centres throughout the province. A new health film, entitled "Safety First," has been produced by the public health department. It deals with small-pox, and the parts were played by Burmese actors and actresses. It is hoped now to produce a plague film on similar lines.

Scotland

Glasgow Royal Infirmary

At the annual meeting on January 1st of the managers and staff of Glasgow Royal Infirmary, with Lord Provost Sir Alexander Swan presiding, Sir James Macfarlane, chairman of the board of managers, said that a review of the past twelve months showed the satisfactory position of a credit balance of about £1,000 at the end of the year. The ordinary income of £84,432 was an increase of £1,151 over that for the previous year, while the ordinary expenditure was £110,669, showing a deficit of £26,237 on the ordinary accounts. The balance, however, had been more than made up by contributions, legacies, and interest on capital. The amount received from the subscriptions of employees had increased by almost £1,000. There had been great pressure on the capacity of the wards, and on one occasion there had been 905 patients under treatment. The managers had recently acquired the property of the asylum for the blind adjacent to the Royal Infirmary, and this would be adapted to relieve the pressure at the latter institution. The speaker also referred to the increased cost of milk under the regulations of the Milk Marketing Board, which would mean an additional £1,000 per annum for this commodity. The Infirmary used Grade A (T.T.) milk, and in spite of the increased cost the managers had decided that this ought to be continued. It seemed unreasonable that milk should be supplied to school children at 1s. per gallon, while to children and others in the voluntary hospitals it was 1s. 6d. per gallon for milk of this grade.

Jedburgh Hospital

An addition to Jedburgh Cottage Hospital, comprising a preparation room, operating theatre, and three-bed male ward, also a maternity ward in the older portion of the hospital, was opened on January 3rd by Lady Margaret Kerr. Lady Stratheden, who presided, said that for some time the hospital accommodation had been inadequate for the population of Jedburgh.

England and Wales

Prevention of Mule-spinners' Cancer

The Manchester Committee on Cancer has issued its report for the years 1932–3 and 1934. The chief object of the committee's existence is to study possible means of preventing mule-spinners' cancer. A year ago work had reached a crucial point, and definite conclusions could not be drawn. Now, however, the committee is able to announce that the object of the research has been attained with a degree of success which could scarcely have been hoped for. It is now possible to advise the cotton industry as to which oils are relatively safe and which unsafe from the point of view of production of cancer, and lubricating oils which are practically free from cancer-producing properties can be produced on commercial lines. In addition to the main object of the research the committee has been able to issue many publications on cancer, and has contributed greatly to the spread of public knowledge. Among the different investigations made on the oils the refractive index and the specific gravity proved to be of the greatest value, and the correlation of these two tests with animal experiments revealed that they make it possible to dispense with animal experimentation altogether in testing a sample of oil. The tables given in the report show a remarkable correlation between the carcinogenicity of the oils and the refractivity constants. There is a definite relation also between carcinogenicity and the country of origin of the oil. The standard established by the research department is as follows:

> "Mule spindle mineral lubricating oils should have a refractivity below 5520 when the specific gravity is above 895, or a refractivity below 5550 when the specific gravity is below 895."

If 60° F. is used instead of 4° C., the refractivities are accordingly increased by 18 or 19, and the above figures become 5539 when the specific gravity at 60° F. is above 895, and 5569 when the specific gravity at 60° F. is below 895. The laboratory has also investigated ways of preventing the action of oil on the skin, and has demonstrated that there is nothing better than the mixture of anhydrous lanolin and olive oil which it had previously recommended. When this prophylactic is employed in conjunction with a judicious selection of oil, the incidence of mule-spinners' cancer should, it believes, fall to a very low figure indeed. All parts of the body likely to come into contact with the suspected material should have the ointment well rubbed into the skin beforehand. After work the part should be thoroughly washed with soap and water and dried, and a little more of the ointment rubbed in. Results of work on tar cancer are by no means so satisfactory, and a great deal of research is still needed in this department.

The L.C.C. Medical Staff

The London County Council is making some rearrangement of its central medical staff in the public health department. The staff authorized in connexion with work arising out of transfer of duties to the Council under the Local Government Act, 1929, was, apart from the three positions of principal medical officer, as follows: two positions of area medical officer, four of senior medical officer, one of principal assistant medical officer, and one of divisional medical officer. The latter position has hitherto been allocated to the special hospitals division, the holder acting as assistant to the principal medical officer in charge. The importance of the duties, however, is felt to warrant the position being one of senior medical officer, with a salary of £1,200 rising to £1,600, as compared with £800 rising to £1,000 for a divisional medical officer. This being agreed to, it is proposed as vacancies occur to discontinue the allowances of £200, £200, and £125 a year respectively granted to three chief medical superintendents in the infectious diseases hospitals service. It is also reported that the work in connexion with the medical examination of the Council's staff, 9,000 cases a year, has proved greatly in excess of the estimate, which was 4,000 cases. In practice it has not been found necessary to call upon the services of consultants and specialists in connexion with this work to any great extent, the total expenditure under this head since January, 1932, having been less than £150. A position of divisional medical officer in this department, with a salary of £800 rising to £1,000, is to be up-graded to one of principal assistant medical officer, with a salary of £900, rising to £1,250.

A review of the medical staff of the mental hospitals of the L.C.C. has also taken place. During the past two years, as vacancies have occurred, an experimental reduction from eight to seven has been made in the total medical staff (additional to the medical superintendent) of the large county mental hospitals. The staff has been reduced to this extent at seven out of the nine hospitals concerned. After a careful review of the working of the experiment, the Mental Hospitals Committee is satisfied that a complement of eight assistants at the largest hospitals is not excessive. It thinks there should be differentiation between hospitals which accommodate more than 2,500 patients each and those which accommodate in the neighbourhood of 2,000 each, and consideration must be given to difficulties of routine and administration, which are increased by the structure of one of the older hospitals (Claybury), with a population substantially above 2,300. Accordingly it is proposed to have a staff of eight medical assistants for each of the four largest hospitals (Banstead, Claybury, Colney Hatch, and Hanwell) and seven for each of the remaining large hospitals (Bexley, Crane Hill, Horton, Long Grove, and West Park).

Heatherwood Hospital, Ascot, which recently passed under the management of the L.C.C. as a general hospital, has hitherto drawn most of its consultants and specialists from Windsor or its immediate locality. This arrangement has worked well in the past, and the L.C.C. does not propose to disturb it, at least until more experience of the work of the hospital has been gained. The arrangements will be reviewed before the end of June next. The basis of remuneration for the consultants and specialists, which is different from the rates paid for similar services in the Council's hospitals, is three guineas a patient a visit, with five guineas additional for an operation.

Progress in Housing

During a debate in the House of Commons in July last it was announced that a half-yearly return would be published showing the progress made with housing in England and Wales. This statement has now appeared in printed form[1] and is a compilation from the departmental records and returns supplied by local authorities. At the date of the Armistice the number of houses in England and Wales was a little under eight millions, and at the end of September, 1934, just over two and a half million new houses had been provided, rather more than one and a half million by private enterprise. The number built without State assistance in the last half-year is a record, beating the previous record, which was established in the first half of 1934. The information available is expressed in a number of tables and graphs. The larger proportion of the houses had a rateable value between £13 and £26 (£21 to £35 in Greater London), the remainder being of a rateable value not exceeding £13 in the country or £20 in Greater London. The proportion of the two types of house is roughly the same

[1] *Housing*. H.M. Stationery Office. (3d. net.)

as in the preceding half-year. The graph shows that the number of houses provided by local authorities runs fairly steadily since 1921, apart from a deep dip in 1924 and a sharp rise thence to 1927, with a fall to the average in 1928. The enormous total increase is almost wholly accounted for in the sharp rise since 1928 in the houses built by private enterprise alone. The local authorities under the Housing Act have three types of building to consider: clearance areas in which the buildings are to be demolished; improvement areas in which overcrowding is to be abated and the houses made fit; and individual unfit houses which are to be demolished, closed, or made fit. Just over five hundred local authorities have delimited clearance or improved areas, and as a result of their resolutions some 73,000 houses are to be demolished and 325,000 persons to be displaced thereby. The tables show in detail the number of houses demolished or made fit and persons displaced under each of the three categories. The Minister has approved nearly 55,000 houses under rehousing schemes, and approximately 27,000 of these are now built.

Health Progress in Cumberland

In his annual report for 1933 of the health services of Cumberland, Dr. Kenneth Fraser, county medical officer, refers to the satisfactory working of the arrangements made for the provision of consulting services available to general practitioners in the area. These services include, in addition to the county council medical staff, orthopaedic specialists, consultants in Carlisle, and agreements with various hospitals in Edinburgh, Newcastle, and elsewhere. Consultations between tuberculosis officers and general practitioners, at the request of the latter, have nearly doubled in number since 1931. The chairman of the local Division of the British Medical Association has been co-opted in his official capacity on to the county health committee, while four representatives of general practitioners have been added to the hospitals committee as nominees of the Association and the Carlisle Medical Society. Dr. Fraser adds that this official co-operation has its counterpart in the manifestation by the official associations of a keen desire to work with the county council in the campaign against maternal mortality. Meetings to discuss this and other topics have been held jointly. While the general death rate of 12.3 per thousand is almost the lowest ever recorded in the county, the maternal mortality was 6.79 per thousand, the highest reached in at least the last thirteen years, and comparing unfavourably with the corresponding death rate for the English counties generally of 4.08 for 1932, the latest year for which records are as yet available. In 1932 the Cumberland figure was 4.75, and the considerable rise this year is attributed to accidents in pregnancy. These numbered twenty, while deaths from puerperal sepsis numbered only three, the rate from this cause being nearly the lowest ever reached in the county. Dr. Fraser considers that twelve or thirteen deaths might fairly be classified as preventable. Evidence of malnutrition or debility consequent on underfeeding was forthcoming in two or three cases, and undoubtedly contributed to the fatal issue. Dr. Fraser cannot believe that such a state of affairs could exist in an area in which extra nourishment is immediately issued in all cases in which the need of it is reported. Of the twenty-three patients who died only six had been examined ante-natally under the county council scheme, but some may have had this care elsewhere. A leaflet of advice for expectant mothers has been drafted jointly by the British Medical Association, the Carlisle Medical Society, and the medical officer of health for distribution by general practitioners and midwives. The reply to the criticism offered that such a leaflet was likely to attach fear to what should be a normal physiological process is on the lines that even a hopeful attitude would be unlikely to benefit one who was suffering from contracted pelvis, malpresentation, ante-partum haemorrhage, or albuminuria. Dr. Fraser holds that the one great drawback has been the lack of a county obstetrical consultant, but this is now to be remedied as soon as gynaecological beds can be made available in the local hospitals. The death rate from tuberculosis appears to be rising, and Dr. Fraser finds it difficult to avoid the inference that a considerable proportion of the population in Cumberland has at present a lowered power of resistance to both pulmonary and non-pulmonary forms.

Reports of Societies

PORT SANITATION

At a meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on January 3rd, with Dr. P. H. MANSON-BAHR in the chair, two papers were read, one on diagnostic experiences on ship-board with special reference to plague, and the other on plague-prevention measures in ships and ports.

DIAGNOSTIC EXPERIENCES, WITH SPECIAL REFERENCE TO PLAGUE

Dr. W. M. WILLOUGHBY, medical officer of health for the City of London, said that the international convention on ship-borne disease dealt with plague, yellow fever, and cholera, also with small-pox and typhus. Small-pox, even without the complications of variola minor, was a bugbear to the medical officer visiting a ship. He must know the diagnosis between chicken-pox and small-pox up to such a point as would puzzle the experts, and if he himself was puzzled he must play for safety. He had experience of 500 cases on two old small-pox ships in the epidemic of 1901–2, but he was still bewildered until W. McC. Wanklyn, who sent back into London scores of cases of chicken-pox which had been diagnosed as small-pox, published the data on which he relied for this bold procedure. Wanklyn's chief points for diagnosis were: that small-pox rash was peripherally distributed—for example, equal areas of forearm, arm, and chest would have the rash in diminishing quantity; exposed surfaces taking rubefaction during period of invasion would have a relatively heavy amount of rash; the depth of the small-pox lesion in the epidermis determined a strictly circular outline under the hydrostatic pressure of vesiculation. The habit of the patient during the period of invasion sometimes determined large patches of confluence. Turning to plague, Dr. Willoughby mentioned that good practice at detecting buboes through oilskins, two pairs of breeches, and so on, was to be obtained by placing a hazel-nut between sheets and feeling for it through two blankets and the eiderdown. Finding was easy, and with practice quick and certain. As for musters, it was the last man that mattered. On one occasion there were thirty in the crew on a tramp steamer; twenty-nine were on muster and duly examined, the ship was under way, and the thirtieth was at the wheel—but that thirtieth proved to have enteric fever, and the wheel was supporting him! The misdiagnosis in plague cases included febricula, malaria, parotitis, cholera, femoral bubo due to gleet, and influenza. As to simple fever, this might be *pestis* on a ship from an infected port or any ship where plague contact was possible, unless and until the contrary was proved. Even mild fever in a person at plague risk was plague until shown to be otherwise. Dr. Willoughby cited several interesting experiences on board ship detecting plague cases. In one instance five cases of plague were found in a ship with a complement of fifty-nine. The five were all associated with the store-room, which happened to provide good nesting and easy food for rats, although in

the entire ship only sixteen rats were found on fumigation. A very good starting-point for the detection of human plague cases was the finding of an associated dead rat. On seven plague-infected ships there had been 1,534 persons presumably at risk, and there were thirty cases of human plague. Nine of these occurred among store-keepers, and many more early ones had association more or less direct with the store-rooms. Should ill-defined illness occur in store-keepers or people who had to do with holds, plague, as became its importance, had better be considered in diagnosis than influenza or mumps. How many flea-bites were required to determine a case of plague in man? Very few, he imagined. His late chief acquired a parotid bubo, otherwise unaccountable, from an incautious entry into a highly plague-infected corner, where his stay did not last half a minute, nor was it in the speaker's recollection that he had spoken of being flea-bitten. Any plague patient taken ashore should first be stripped and wrapped in flea-free blankets. Similarly, textiles from a known infected place for disinfection ashore should be subjected to a preliminary flea disinfestation on board. The international effort to confine typhus to the east of Europe after the war, Dr. Willoughby continued, left the port medical officer nothing to say on diagnosis. It was much the same with yellow fever. When would opportunities for the exercise of experience in diagnosis come again? Perhaps at any moment, but most probably when people were so busy over other matters that they had to neglect the rats of an endemic plague country, and the stocks of food in relation thereto, while the same neglect at the same time existed on ships and in the home country. The stage might then be set for pandemic plague transferred by ships. Meanwhile, had anything been done further to elucidate the natural history of plague flea and rat?

MODERN PLAGUE-PREVENTION MEASURES

Dr. C. F. WHITE, principal medical officer for the Port of London, recalled the history of maritime quarantine, which was introduced in the fourteenth century in an endeavour to prevent the spread of plague. Though the system failed to achieve its object, and was expensive and restrictive to sea-borne commerce, it survived for over 500 years, presumably because, in the absence of knowledge of the aetiology of plague, no method of procedure more likely to be successful could be devised. This country acknowledged the failure of quarantine as a preventive measure in the middle of last century, and substituted medical inspection of ships on arrival, though the last Quarantine Act was not repealed until 1896. Nevertheless, it was not until the discovery of the role of the rat and the rat-flea in the spread of plague that it was possible to re-establish plague-prevention measures on a sound scientific basis. It was now recognized that a port health authority must not only take steps to detect plague, human or rodent, afloat or ashore, at the earliest possible moment, but must eliminate conditions in ships and in shore premises which were conducive to the development of an epizoötic. Although here and in other countries with an enlightened public health administration, practice had long been ahead of legislation, the International Sanitary Convention of 1926 had now established throughout the world a large measure of uniformity in the effort to prevent the spread of the more dangerous epidemic diseases by over-seas trade, and the Port Sanitary Regulations, 1933, had brought quarantine legislation in this country up to date. For the detection of plague every ship arriving from a plague-infected port was medically inspected on arrival, but, even if there was no evidence of plague infection on board, such ships were examined daily by a rat officer until the discharge of cargo was complete. Dead rats found and live rats trapped were bacteriologically examined. If a rat was reported to be infected the vessel was fumigated at once. The discharge of cargo was then continued under supervision, and when the ship was empty she was fumigated again. Shore premises, particularly those in the immediate vicinity of the berths of ships from plague-infected ports, were systematically searched for rats, and if evidence of plague infection was found energetic measures of rat destruction were at once instituted over a wide area. The International Sanitary Convention required all foreign-going ships to be inspected every six months as to the number of rats on board. If a ship was not so maintained as to keep the rat population down to a minimum she must be deratized. Dr. White described and illustrated the use of hydrogen cyanide for this purpose; in this process very careful precautions were necessary to avoid danger to human life. He also discussed methods of rat-proofing, the only rat-repressive measure of permanent value. These were directed to eliminating likely places of rat harbourage and stopping access to food, and they must apply to both ship and shore. The measures usually adopted to prevent the passage of rats between ship and shore were of limited value.

DISCUSSION

Dr. E. W. GOODALL was glad Dr. Willoughby had emphasized the mistakes made by piecemeal examination of the skin in suspected small-pox. The patient should be stripped from head to foot. He also pointed out that the prodromal symptoms of chicken-pox might closely simulate those of small-pox. Dr. H. H. SCOTT said that it was remarkable how the victims of plague would go about apparently well and suddenly drop dead. He had seen this happen in Hong-Kong, where a rickshaw boy, after running about as usual, would stagger and die within a few minutes. A paper had been published recently dealing, not with plague, but with tularaemia in Russia, where there was an epizoötic which had killed off mice and other field rodents. Two or three months later ground squirrels began to inhabit the same locality and became infected. Nests which had been deserted by the field rodents for three months were examined, and although most of the fleas were dead those which were alive were found to be capable of transmitting tularaemia. Colonel S. P. JAMES said that at the recent meeting of the International Health Office in Paris the subject of rat-proofing had been taken up with much interest, and he believed that internationally the subject would soon attract great attention. He thought the basis of a new method of rat-proofing on ships was contained in a pamphlet written by a group of British ship-owners. In the sailing-ship days yellow fever was the cause of much mortality on ships coming to England. Sometimes mosquitos which had been bred out on the ship and had become infected during the voyage escaped during unloading in England and took refuge in houses near the docks, causing brief but dramatic outbreaks. When the steamship displaced the sailing ship occurrences of this kind became more rare, and even when they were recorded the diagnosis was often proved to be wrong, what was supposed to be yellow fever proving to be malignant malaria. This mistake still occurred from time to time, the most recent example being on a British ship in Valparaiso in August, 1934. He believed it was in 1926 that the last case of plague occurred in England. Malignant malaria was exceedingly common on many ships, and it was very important for the port medical officer to have a knowledge of the protean manifestations of malaria and to be able to make a speedy diagnosis. Sir ALDO CASTELLANI said that it was quite easy to make a diagnosis in typical infected cases of plague, where there was a large bubo, but at the beginning of an epidemic cases were generally quite atypical. He recalled the first epidemic of plague he saw in Ceylon in 1913, when several sudden deaths occurred. The native practitioners ascribed them to sunstroke, and he was asked to see one case in which such a diagnosis had been given. The patient had high fever and complained of severe pain, and the speaker was not satisfied that it was sunstroke. The patient died, and, with great difficulty, permission was obtained for a post-mortem examination. The spleen was found enlarged, and cultures proved the presence of the plague bacillus. In that instance the human epidemic was not apparently preceded by any epidemic among rats, although a close watch was maintained over the rat population. Dr. W.

BROUGHTON-ALCOCK said that in Malta during the war a patient was admitted to hospital and his condition diagnosed as septicaemia. He died, and very soon afterwards the attendants who had carried the body to the mortuary fell ill, and the case was found to be one of plague. This epidemic in Malta, like the one immediately preceding it, was brought to the island by a man taking the clothes of one of his friends from ship to shore, the infection being carried in the clothing. The first two cases were of haemorrhagic plague, followed shortly by bubonic.

COMMON EAR, NOSE, AND THROAT EMERGENCIES

At a meeting of the Devon and Exeter Medico-Chirurgical Society on December 20th, 1934, with the president, Mr. R. WAYLAND SMITH, in the chair, Dr. C. H. CARROLL gave an address entitled "Ear, Nose, and Throat Emergencies in General Practice."

Dr. Carroll said that the commonest symptoms referable to the ear which caused people to seek advice were: continuous pain, sudden deafness, giddiness, and nausea and vomiting. Referring to injuries to the external ear, Dr. Carroll mentioned the troublesome haematoma so frequently associated with boxing and Rugby football. In the treatment of this condition he advocated cold compresses at the outset. In his experience if these were applied in time—that is, at the earliest possible moment—they rendered puncture unnecessary. Furunculosis, an exquisitely painful affection, Dr. Carroll continued, might suggest a diagnosis of an acute mastoid prior to routine examination of the meatus, or, again, it might actually be associated with otitis media. Apart from the history of sudden or protracted pain, the speculum would decide the diagnosis. If the obstruction allowed the speculum to pass, deafness was at once relieved in uncomplicated furunculosis. Where there was coexistent otitis media hearing would be unchanged. Incision of the furuncle should be undertaken under anaesthesia, and then a strip of gauze soaked in mercurial oil should be introduced into the external auditory canal. Otitis externa (diffuse) was often found as a complication of otitis media, and here a wick of gauze carrying salicylic ointment would generally clear up the infection. Not infrequently cerumen was a cause of more or less sudden and severe pain in the bathing season, sea-water mixing with the wax to form a dense and bulky mass, very resistant to removal by syringing. In such cases it was often necessary to break down the impaction, and literally to dig out the cerumen with the instrument of choice. Referring to foreign bodies which gain access to the external auditory canal, Dr. Carroll said that winged insects caused considerable terror and giddiness in children by reason of the noise and vibrations set up. Injection of oil, etc., should, however, remove the insects without difficulty. Syringing was contraindicated in the removal of vegetable matter from the canal, and would result in furthering impaction. With the view obtained by a speculum, a malleable probe should be so arranged as to hook over the obstruction, when retraction should prove a simple matter. Syringing was also contraindicated in the removal of metallic foreign bodies; the probe should be introduced so as to cause tilting, but if an inflamed and bleeding meatal wall was observed it was wise to attempt nothing for a couple of days. Dr. Carroll instanced a case in which a fragment of granite had been jammed in close contact with the membrana tympani. Acute myringitis was associated with acute pain but without deafness, and on inspection bullae would be seen projecting. An anaesthetic and prompt incision (a very simple procedure) would afford almost immediate relief, and in any case was strongly indicated. In traumatic rupture of the membrane gentle wiping out with a probe and gauze mop was the correct treatment, not syringing. As a trap to the unwary, an acute mastoid infection might be present without otorrhoea and with a normal appearance in the membrane. In such a case he had found a mastoid full of pus and the middle ear to contain pus also. An unusual source of perforation of the membrane was the wandering of a roundworm; in the first instance this was probably vomited, and thus forced into the middle ear, whence burrowing out was effected through the membrane.

Dr. Carroll wondered why so little fuss was made over injury to the nasal bones, and why so many deformities were allowed to consolidate. Within four days of injury manual rectification was possible in the average case, and it was lamentable to observe the damaged airways, with resultant effects on the respiratory tract, for which treatment was so often sought too late. It was generally best to investigate nasal discharge in children under an anaesthetic. Foreign bodies in the nostrils could frequently be dislodged by directing the flow of the syringe up one nostril and down the other. The presence of an acute sinusitis of the antrum could often be established by transillumination and puncture through the middle meatus with a curved trocar, which was not a difficult undertaking. It was curious that in epistaxis the sufferer lay down, as a rule, in the worst possible position; blood was swallowed, leading to a temporary sense of security, which was soon shattered when the inevitable vomiting followed. It was quite possible to see the bleeding point and to stay the haemorrhage with some cauterizing agent such as silver nitrate, chromic or carbolic acid. In Dr. Carroll's own experience a saturated solution of glucose on cotton-wool had saved the situation on many occasions, and he had counselled those subject to recurrent bleedings to go about so armed.

The so-called quinsy, more common of the acute throat affections, was a source of considerable discomfort and misery, but here timely incision of the tonsil brought immediate relief. The patient, however, should not be up and about for several days, and Dr. Carroll instanced the case of a boy who had been discharged from hospital apparently normal and who died suddenly shortly afterwards when walking in the street. It must be remembered, he continued, that the infection and constitutional disturbance in these cases were often severe, and that the myocardium was weakened by the toxaemia. Retropharyngeal abscess might take origin locally behind the pharynx or relate to a remoter focus such as caries in the cervical spine. This was a condition for which an emergency operation might be required at any moment to relieve respiratory obstruction apart from the toxaemic symptoms. In one case of this kind he had been informed, on arrival at the hospital in response to an urgent message, that the patient's breathing had already ceased, and that the child appeared to be dead. Suspension by the feet and an incision into the abscess, performed with all possible rapidity, however, resulted in complete restoration. Foreign bodies lodged in the throats of children were of common occurrence, and the usual sites were above or below the tonsil, behind the tongue, and behind the cricoid plate. As a rule, with the child inverted, the foreign body could be dislodged, but with the larynx obstructed and dyspnoea urgent the situation might have to be met with an immediate laryngotomy. Vincent's angina was liable to be confused with diphtheria, but the infection was limited to one tonsil, and glandular enlargement was an early accompaniment. A swab would show the typical spirillum. In Dr. Carroll's experience, painting with tincture of iodine had given good results. He reminded his listeners that when tracheotomy had been performed in diphtheria and the time came for leaving out the tube, the wound should never be sutured but allowed to granulate. An extensive and dangerous infection with cellulitis of the neck might easily be set up by suturing. He could not understand why the coin-catcher was condemned in textbooks for the removal of foreign bodies which had been swallowed. Personally he had never failed to remove a coin with this instrument, nor had he encountered any adverse symptoms during the use or noted any subsequent ill effects. He did, however, advise that the catcher should be introduced under *x*-ray illumination, when there should be no difficulty in passing the instrument on the flat, beyond the coin in the first instance, and then with a gentle turn slowly withdrawing so as to ensnare it. In the same way he saw no reason to discard the expanding bougie for the removal of foreign

bodies where absence of a sharp edge or point offered no special contraindication.

Dr. HEAL recalled an emergency tracheotomy performed on a child brought in from the street with urgent dyspnoea and cyanosis. Immediate tracheotomy failed to relieve the symptoms, but the passage of a gum-elastic catheter down the trachea restored the breathing immediately. Further progress was uneventful, although the nature of the obstructive symptoms remained a matter for conjecture. Dr. L. N. JACKSON asked the opinion of Dr. Carroll on the value of antivirus in cases of chronic otorrhoea, and also inquired as to how far epistaxis could be left untreated, and regarded as beneficial in old people with high blood pressure. Dr. G. L. THORNTON related the case of a young soldier serving on an Eastern front in the war, who reported sick with the story that when drinking from his water-bottle several days previously, a bullet or richochetted stone had hit the neck of the bottle and knocked off a fragment. Since that time he had become hoarse and had coughed up blood-stained phlegm. Examined with a mirror there appeared to be a sloughing mass occupying the position of the left false cord. He was sent to hospital with the request that the subsequent history should be forwarded. Eventually it was learned that an *x*-ray examination showed no metallic body at the site of the swelling or below, and that the man had been kept under observation and on expectant treatment. Some five days after admission the diagnosis and condition were cleared up simultaneously by the coughing up of a live leech.

Dr. CARROLL, in reply, said that fish bones were very prone to catch in the tonsillar fossae or valeculae. The question of how far to leave epistaxis untreated required careful consideration of the individual case. The epistaxis should not be overdone, although in a case where the systolic blood pressure was 250 it had relieved the symptoms. In such conditions a solution of glucose and a packet of wool could be carried about with advantage, and the epistaxis so kept within bounds. The action of antivirus in otorrhoea was somewhat uncertain, but good results had been obtained in conjunction with local treatment.

POST-PARTUM HAEMORRHAGE

At a meeting of the Midland Obstetrical Society at Birmingham on December 10th, 1934, with the president, Dr. C. E. PURSLOW, in the chair, Mr. WENTWORTH TAYLOR read a short communication on post-partum haemorrhage.

Mr. Taylor said that if prophylaxis was the prime remedy for post-partum haemorrhage then the accepted textbook classification of the subject into "atonic" and "traumatic" varieties would require close scrutiny. Every uterus paused on three occasions during a typical labour: first, when the membranes ruptured; secondly, when the child's head passed through the cervix on to the perineum; and thirdly, following the birth of the child. These pauses were not rest periods; rather were they periods of veiled activity, during which the cavity of the uterus was becoming accommodated to its diminished contents, and were preparatory to fresh expulsive efforts. It followed that if atony of the uterus ever succeeded the birth of the child the placenta would remain attached to the uterine wall until separation was eventually effected, either mechanically or by necrosis. In the light of common experience this seldom occurred, and a fully adherent placenta was actually a rare phenomenon, having an associated pathology of its own. Our knowledge about the manner of placental separation had been greatly enhanced since Caesarean section came to be employed with safety, and it was now beyond question that separation began with the birth pain, or the pain which immediately followed. As to the completion of separation, the retroplacental haematoma seemed to be mainly responsible for this in virtue of its gradual spread from the placental centre to the placental edge. Now, if an active controlling hand placed on the fundus uteri after delivery brought about the loss of the retroplacental haematoma before its work was complete, and before reduction in the size of the uterine cavity had materially advanced, it followed that haemorrhage would be free, and that sooner or later the patient would faint. Her uterus then passed into a condition of atony like the rest of her body, from want of oxygen. To complete the picture, the patient was also left with a retained placenta. If such a concept was true it would appear that atony of the uterus was secondary to a loss of blood which ought not to have happened at all.

If a manual removal of the placenta was necessary it was common to find the placenta already largely detached, with only a few cotyledons still holding on. Separation of the placenta, Mr. Taylor suggested, in whole or in part, was very rapidly followed by the production of histamine, or depressor substances allied to it. When the manner of placental expulsion was normal, and the placenta entered the vagina after fifteen to twenty minutes, nothing untoward happened. When, however, separation was but partial, and contact of the separated cotyledons with the highly absorptive sinuses of the uterus was kept up, then a major fall in blood pressure took place. This fall had Nature's desired effect of stopping further bleeding on a large scale, but no improvement in the patient's condition was likely until the placenta had been expelled. These few remarks concerning the part played by a retained placenta in producing a marked fall in blood pressure applied equally to abortion, miscarriage cases, and ectopic pregnancies, and formed a final plea for the performance of Caesarean section in cases of central placenta praevia. In the last, efforts to bring a leg down resulted in some two-thirds of the placenta being separated. Unless labour advanced rapidly—and quite commonly it did not—torn and damaged tissue undergoing early post-mortem changes was kept in tight apposition with the maternal sinuses. It was this factor more than the haemorrhage that contributed to a fatal result.

Finally, if any anaesthetic was given for an operative delivery and laceration of the perineum resulted, a very dangerous train of events was apt to be set in motion by omitting to suture the perineal tear immediately after the cord was ligatured. Bleeding from torn perineal vessels took place, but by no means all of it appeared on the draw-sheet. The greater part of such haemorrhage found its way back into the posterior fornix of the vagina. Whether the fundus was being controlled or not, a gush of blood would sooner or later appear, and the anaesthetic was apt to be blamed. From now on, the advent of atony proceeded apace, and the atonic condition of the uterus was the result of neglect to suture the perineum, and not of giving chloroform. He had never found immediate suture of the perineum to delay or hinder expression of the placenta. Rather did the procedure appear to favour a normal third stage.

DISCUSSION

Mr. C. D. LOCHRANE did not think that Mr. Taylor's explanation could be applied to all cases. He described a case of his own in which the patient, after a normal labour, recovered from severe shock after forty-eight hours, although the placenta remained *in utero*. Professor BECKWITH WHITEHOUSE said that the theory might explain the profound shock seen in some cases of placenta praevia, particularly of the central type with extensive separation. He asked for opinions on the best treatment of such cases; his own preference was for Caesarean section. Mr. P. J. GANNER considered that Caesarean section was unjustifiable before the thirty-fourth week, as before this time version was easy and the results equally good so far as the mother was concerned. Many of these cases showed little shock, although the placenta was extensively detached. After the thirty-fourth week Caesarean hysterectomy was often justifiable, especially in a multipara. Mr. MASLEN JONES said that he had seen fatal shock without any placental detachment.

Mr. TAYLOR, in reply, said that a placenta still completely attached would not cause haemorrhage or shock, which usually followed attempted expression with partial separation. He advised Caesarean section for central placenta praevia irrespective of the stage of pregnancy reached, but thought that a hysterectomy was seldom justified.

DIAGNOSIS OF BRAIN ABSCESS

At the December meeting of the medical section of the Royal Academy of Medicine in Ireland Dr. R. H. MICKS read a communication on "The Diagnosis of Abscess of the Brain."

Dr. Micks said that in his experience there were three common mistakes in the diagnosis of cerebral abscess. (1) Complete oversight because the symptoms were slight and the progress slow. (2) Abscess simulating meningitis. Clinically the case resembled acute meningitis, and the fluid was frequently turbid and under tension. If it contained both white cells and organisms the case was obviously one of meningitis, but if cells alone and no organisms it was possible that the patient had a brain abscess alone without meningitis. (3) "Otitic hydrocephalus." This syndrome was first clearly defined by Symonds, who gave it this unsatisfactory name. It was easy to distinguish from meningitis by two signs. First, there was always a very high papilloedema, and, secondly, the cerebro-spinal fluid was clear and the cell count never above normal. It might last for some months. There were two popular fallacies which contributed to missing the diagnosis of brain abscess: the notion that papilloedema was a common sign in this condition, and the notion that an otologist could by examining the ear say that an otitis was too slight to have caused a brain abscess. Localization of the abscess was often very difficult. For instance, in cerebellar abscess destroying one whole lobe arm deviation and mispointing might be absent. Gross focal signs were very rare indeed.

The President, Professor V. M. SYNGE, said that Dr. Micks had seen a great many more cases of brain abscesses than most physicians came across, and he agreed with him regarding the difficulty of diagnosis. Dr. H. LEE PARKER said that the chief problem was to find out where the abscess started. The infection that was present might turn to a rapidly spreading meningitis. He felt that the term "otitic hydrocephalus" was a very crude one. An encapsulated abscess might easily be mistaken for a tumour of the brain. Dr. W. R. F. COLLIS mentioned a case he had recently seen in a child in which the fluid was under very great tension. At necropsy an otitis was found that had passed forwards into the middle fossa and had then burst outwards through the cranial bones. A small brain abscess was just beginning to form.

Mr. A. A. MCCONNELL said that the cases he saw in which the diagnosis was questionable were those in which suggestive cerebral symptoms developed soon after operation. These cases were particularly difficult. He would like to know what symptoms might arise after a septic mastoid operation. If a description were published of the ordinary course that a mastoid operation should take, and of the symptoms that one should expect from it, this might make the diagnosis of brain abscess easier. He disagreed with Dr. Micks's opinion that it was not of great importance whether the abscess was ever clearly localized or not. He thought it essential to localize the abscess before anything was done. Operation should not be performed unless it was absolutely necessary, and the simplest thing in his opinion was to do a ventricular puncture. By this means the surgeon could find out which approach to the brain was indicated, and it was much easier for the patient to have a ventricular puncture done than to have the brain explored from the two different sides.

Professor L. ABRAHAMSON referred to a case which had been admitted to the Hardwicke Hospital under his care as a case of hysteria. On admission the patient was lethargic but could be roused; the pulse rate was 56; temperature subnormal. Periodically the patient emitted a piercing cry. There was slight but definite rigidity of the neck muscles; the pupils were sluggish. Some discharge was observed in the right ear. A diagnosis was made of right cerebellar abscess. This was drained by Mr. McConnell and recovery was uneventful. Professor Abrahamson accepted the fact that for some time before admission the signs were so vague that diagnosis was impossible.

CORRESPONDENCE

Treatment of Pneumonia

SIR,—Professor W. H. Wynn's article in the *Journal* of December 22nd, 1934 (p. 1159), will have been read with interest and profit by general practitioners. I should like, however, if I may, to offer a little friendly criticism.

Professor Wynn says, "Digitalis . . . should not be prescribed. . . . It adds another poison to the heart." My experience is that all powerful remedies are "poisons" if used wrongly, or in excess, or sometimes, it may be, in too small a dose. The effect of a small dose of a "poison" is often almost the exact reverse of a large dose. Professor Wynn refers to statistics showing an increased mortality in digitalis-treated cases. He does not say if this lumps up together the different types of pneumonia.

We used to distinguish three types: (1) pneumonia (typical lobar pneumonia); (2) septic pneumonia (mixed infection); and (3) bronchopneumonia (infection spreading from the bronchial tubes to the smaller tubes and substance of the lungs). Treatment suitable to one of these types may be, and I think often is, quite unsuitable to one or both of the others. I am not prepared to say that digitalis should be used (at all events as a routine treatment) for septic pneumonia or bronchopneumonia. My belief is that unmistakable and substantial improvement quickly results in typical lobar pneumonia if digitalis is carefully given as early and as quickly as possible until it produces its full physiological effect. Apart from treatment and without statistical evidence before me, I should say that the mortality from what we used to call "septic pneumonia" is very much higher than that from typical lobar pneumonia. Bronchopneumonia may be comparatively trivial or very hopeless, according to circumstances.—I am, etc.,

HUGH WOODS.

Blindley Heath, Surrey,
Dec. 27th, 1934.

The Registration of Osteopaths

SIR,—Both in the recent House of Lords debate and in letters now appearing in your columns the objections raised by medical men to the registration of osteopaths lay too much stress, I fear, upon the effect of that proposed change upon the medical profession as such—upon ourselves, that is to say. The appeal made by such arguments is too circumscribed. Neither peers nor public are influenced thereby, and, indeed, any show of self-defence upon our part is rather apt to arouse contempt. What they do care for, naturally enough, is their own welfare and comfort. That being so, the most telling counter to the osteopaths' agitation is that, if their registration is granted, it will lead to an increase in the nation's death rate.

The osteopath is a practitioner, or, to be more in accordance with his claims, a "healer" of disease, whose education and practice are based upon a reading of disease process that is opposed to post-mortem fact. Consequently his death certificates will be misleading. Consider the effect of the intrusion of such fundamental falsity upon the public health. As every medical man and very few laymen know, the health services of the nation, in all their manifold ramifications and extensions, are to a large extent founded upon and guided by death certification. Moreover, it is upon the statistics that are compiled from death certificates that research into disease, with all its past triumph and future promise, is largely based. To mention some of the simplest instances: the death rates from tuberculosis, cancer, the septic fevers, and exanthemata furnish accurate and dependable

guides both to research and to general hygienic control. Thus the prevention of disease depends largely upon the accuracy of the death certificate, a document which, as things are at present, is being filled up and signed by a body of observers whose contact with demonstrable fact renders their evidence not only scientifically and hygienically indispensable, but also—be it well noted—morally indispensable. If, however, osteopaths are given the power, and it is a decisive—a critical—power, of death certification, then we shall find a certain, and it may be a large, proportion of deaths attributed to the fanciful events that form the so-called pathology of osteopathy. Thence will arise error and a vast confusion in vital statistics. Our most reliable guide to action in public health matters will be lost, and the health of the community as a whole will suffer deterioration, both directly and indirectly. But there is also that other side of the matter, at which I have hinted. To hand over the responsible duty of death certification to a body of men who have been spared the arduous and prolonged training of the registered medical practitioner of to-day, with its powerful strengthening of character and conscience, would assuredly open the door to crime.

These are the all-important reasons why a relaxation of the stringent medical laws of our country should be resisted, and the resistance is, as all classes in the community can be brought to see, necessary for the protection of the public rather than for the protection of medical men.—I am, etc.,

London, W.1, Jan. 7th. DAN MCKENZIE.

Treatment of Ruptured Spleen

SIR,—Mr. Hamilton Bailey's interesting letter (*Journal*, December 29th, 1934, p. 1219) provokes a comparison of the midline with the transverse incision for splenectomy. He favours the former because he can remove the spleen through it, because it is quicker to close, and because, in the event of its bursting, it is the less difficult to reconstitute. Surely the fundamental requirement of an incision to treat ruptured spleen is not how quickly it can be closed after operation or after bursting, but that it will permit with certainty the rapid control of the resulting haemorrhage. I advocate the transverse approach because it fulfils this essential, not only in the hands of mature surgeons, but also in those of resident surgical officers, who treat many of these cases. The midline incision does not always pass this test.

My experience, like Mr. Hamilton Bailey's, is of seven cases—two at the hands of "chiefs" of at least national repute, and five personal. The two I witnessed and the first two I performed were begun through left paramedian incisions; in all four, after considerable unsuccessful retraction of the wound and manipulation of the spleen, the abdominal wall was divided outwards to the left costal margin, when the operations proceeded smoothly. The time expended in manipulation, and in extending and closing the compound wound, was much more than that of completing a purely transverse opening. My recollection of them is still one of difficulty and dissatisfaction. The last three cases (including one with an associated ruptured left kidney), through the transverse incision, were characterized by precision, by speed, and by ease. Hamilton Bailey himself[1] says: "In those rare instances where more room is required in order to deal with an adherent organ, the incision can be enlarged by a transverse cut to the left." He further mentions the friable thickening which occurs in the spleen and its pedicle in cases where the symptoms are delayed (as in the patients I reported), so that additional injury may occur during the handling forward to the midline.

[1] Bailey, Hamilton: *Brit. Journ. Surg.*, 1927, xxv, 40.

The central approach usually calls for the following: (1) strong retraction of the wound; (2) tension on the pedicle while it is stretched to the midline, so that overlooked or torn small vessels may not bleed until it is slackened and retracted into the abdomen, when recovery may be extremely difficult. Although scarcely relevant to this discussion, the midline opening is a fertile source of incisional herniae, while any transverse extension of it immediately neutralizes all its slight advantage by reason of its quick closure. The advantages of the transverse incision are as follows: (1) It is soon made and easily closed, even with a poor anaesthetic. (2) With the loin elevated it yields perfect access to the spleen, which lies comfortably outside the wound: thus the vessels are defined and tied with absolute precision before division, and a mass ligature is never necessary. (3) Further, with a pedicle so secured, inclusion of the tail of the pancreas in a ligature is very unlikely. (4) The post-operative convalescence is said to be smoother with this incision. I have never seen or heard of hernia following it.

On two occasions[1] I have at the same time removed an unsuspected ruptured kidney, the excellent exposure of the area revealing the haematoma shining through the posterior peritoneum. The midline incision would not have favoured this finding, nor the consequent rapid and successful nephrectomy. The complication of a burst wound after splenectomy may be due to: (1) a rapid but insecure closure owing to the urgency of the operation; (2) a post-operative pneumonia aggravated by an associated injury to the ribs and pleura sustained at the time of the accident; and (3) digestion of the wound edges and catgut by activated ferments liberated by damage to the tail of the pancreas, either by the accident or by its inclusion in a mass ligature of the pedicle during the operation: the latter is more likely to occur when the access to the spleen is poor, and a semi-blind clamping is necessary; I submit this may be the case where the midline incision is used. Careful suturing with thread instead of catgut will in some measure mitigate the chances of the wound yielding. I have used this for six years with satisfaction.—I am, etc.,

London, W.1, Jan. 7th. HAROLD DODD.

Effect of Diet on Human Milk Secretion

SIR,—With reference to the leading article on diet during pregnancy and lactation, in the *Journal* of December 29th, 1934 (p. 1205), the following somewhat unique case may be of interest.

Mrs. H had been a strict vegetarian for two years prior to her last conception, and for religious reasons had absolutely excluded animal protein from her diet. Her protein ration was obtained almost entirely from brown bread and peanuts, and of the latter she consumed 6.2 oz. daily. She gave birth to a full-term normal infant weighing 7 lb. 7 oz., and breast-fed it entirely for over nine months. I first saw the child when he was thirty-six weeks of age. He was bright, very intelligent, active, and contented, but obviously undersized: he weighed 13 lb. 8 oz. (4 lb. below the average weight of a child of the same age). Test weighing revealed that he was receiving a fairly adequate quantity of milk from his mother (34 oz. in the twenty-four hours). In order to obtain a representative sample of the milk the entire content of one breast was expressed at four-hourly intervals over a twenty-four-hour period, and a well-mixed sample taken for analysis. The composition was as follows: sugar, 7.3 per cent.; fat, 5.3 per cent.; protein, 0.8 per cent.

I assume that the low protein content of the mother's diet and the biological nature of the protein ingested had a definite effect upon the protein content of her milk, and that the retarded physical growth of the child was

[1] Dodd, Harold: *British Medical Journal*, 1932, ii, 54.

due in the main to the quality of the milk it received. From results obtained from a series of feeding experiments conducted on nursing mothers (*Arch. Dis. in Child.*, 1931, vi, No. 31) I concluded that: (1) the composition of the milk was not appreciably affected by great changes in the constituents of the diet other than fat, and (2) that the feeding of a high protein diet and a high protein diet plus vitamin B diet increased the milk yield.—I am, etc.,

Woolwich, Jan. 7th. HELEN EASTERFIELD DEEM.

The Clinical Importance of Achlorhydria

SIR,—In Dr. Arthur F. Hurst's illuminating address to the Section of Medicine at the Bournemouth meeting of the British Medical Association, published in your issue of October 13th, 1934 (p. 665), there are two paragraphs which are somewhat contrary to the experience of a surgeon practising gastro-enterology; hence the views expressed call for comment.

"When achlorhydria is present after gastro-jejunostomy, the operation has generally been needlessly performed on a patient who already had achlorhydria, or on one with a chronic gastric ulcer in whom the original hyperchlorhydria had been replaced by hypochlorhydria as a result of chronic gastritis. In rare instances, however, the hyperchlorhydria of a duodenal ulcer may be followed by achlorhydria after gastro-jejunostomy."

Apart from the case of a female, aged 75 years, who had a penetrating ulcer involving the proximal part of the lesser curvature, I have failed to observe the association of achlorhydria with uncomplicated gastric or duodenal ulcer. On referring to the second chapter of *Gastric and Duodenal Ulcer* one finds that Dr. Hurst has written: "This [chronic gastritis] was certainly the explanation in the only three cases I have seen of chronic ulcer with achlorhydria. All three were gastric." Achlorhydria may, however, closely mimic the symptoms of a duodenal ulcer. In fact, cases are not uncommonly referred for a surgical opinion, even after several weeks of "Sippy's treatment," but Austrian surgeons, as a whole, deprecate surgical intervention, and would look upon gastro-jejunostomy in such cases as culpable negligence. Apart from other tests, my routine practice has been to carry out pre-operative and post-operative fractional test meals upon all cases of peptic ulcer; by which means a pathologist is frequently able to demonstrate gastro-jejunostomy converting a hyperchlorhydria into an achlorhydria, more especially if the case be one of gastric ulcer. In the light of the above it would appear that any adverse criticism in connexion with the cases mentioned should be directed at the artisan rather than towards the tool he has employed. Half a decade ago the virtues of gastro-jejunostomy, as performed by rank-and-file surgeons, were very ably marshalled in a collective investigation instituted by the British Medical Association.

In conclusion, Dr. Hurst states that he has seen two cases of simple achlorhydric anaemia and one of Addison's anaemia (pre-operative hyperchlorhydria: post-operative achylia: type of stomach not stated) occurring subsequent to gastro-jejunostomy, and quotes a further sixteen reported cases of the former and eight of the latter syndrome. Before accepting the deduction that these sequels are the direct result of gastritis initiated through "short-circuiting," a surgeon may logically inquire whether the incidence of these two maladies is any greater after gastro-jejunostomy (for proved peptic ulcer) than after any other operation, such as appendicectomy, performed during the fourth or fifth decade, or even in a collection of individuals selected at random at the same hospitals and of an equivalent age and sex grouping.—I am, etc.,

Sydney, New South Wales, November 26th, 1934. H. RUTHERFORD DARLING.

Corpus Luteum Extract and Uterine Contraction

SIR,—In the *British Medical Journal* of December 22nd, 1934 (p. 1174), Dr. Samuel R. M. Reynolds offers an explanation of the discrepancy between the results obtained from my study of the contractility of the human non-pregnant uterus (reported in the *Edinburgh Medical Journal* of August, 1934) and those previously obtained by Knaus and by himself on the human species and on the rabbit. It is not clear what is meant when he says that the uterus was distended by "chemical means," but I assume that his criticism is similar to the one used by Knaus to dispose of Schultze's experiments (which also went contrary to the previous work), and is, in short, that the comparatively high initial pressure used in the uterine cavity produced an unphysiological distension, and consequent abnormal irritability of the uterine musculature. This criticism is reasonable, and pending further direct experimental evidence I am inclined to believe that it may account for some of the findings. I do not, however, believe that it offers a complete explanation of the discrepancy of the results. The intra-uterine bag with which most of the work was done contains, *when fully distended*, only 3.2 c.cm. of fluid. Now to quote from Knaus's recently published book *Periodic Fertility and Sterility in Woman* (p. 73):

"On the sixteenth day of the cycle, however, a striking change begins to take place in the function of the uterine muscle. To begin with, the observer finds that he can introduce an extraordinarily large quantity of water—8 or 10 c.cm.—into the balloon inside the uterine cavity before he feels any resistance. . . . The uterus almost entirely loses its capacity for spontaneous contraction, and becomes flaccid and sluggish."

It will thus be seen that in his experiments during the luteal phase of the menstrual cycle Knaus must have caused the uterine cavity to be distended to at least two and a half times the capacity which I found necessary in my work. Dr. Reynolds's criticism is thus not only negatived, but actually reversed.

If, however, Dr. Reynolds wants to maintain that in my work the uterus may have been *locally* distended and irritated, I offer in reply the unalterable fact that the uterus in the second phase of the menstrual cycle is quite capable of powerful contractions if suitably stimulated; and it was my object in the address to show that increasingly powerful contractions could be recorded in the last two weeks of the cycle, which contractions finally merge into those of menstruation (when the uterine cavity is again distended as by a foreign body).

Again, Dr. Reynolds's suggestion offers no explanation of the fact that the uterus was found to respond to pituitrin (or vasopressin) at *all stages* of the cycle. Even if it can be shown that such a response is recorded only by a certain technique, the fact that it is present in the human species considerably weakens the value of the test for the date of human ovulation (refractoriness of the uterine muscle during the luteal phase to pituitrin) on which Knaus chiefly bases his law of periodic fertility in the human female. In my experiments the pituitary extract has always been given intramuscularly in the usual clinical dosage. It has not been given intravenously because of the increased risk of pituitary shock—a condition of not altogether rare occurrence, and, incidentally, one which may make the use of the crude extract a danger rather than a help in cases of traumatic shock.

Finally, I hope that neither in the original address nor in this letter has anything been said which might be construed as belittling the value of Dr. Reynolds's admirable experimental work, or of the equally outstanding and pioneering clinical investigations of Knaus. It is

my object, however, to show that the matter is considerably more complicated than it appeared to be by the publications of these workers.—I am, etc.,

Obstetric Unit, University College Hospital, Dec. 31st, 1934. CHASSAR MOIR.

So-called Acidosis in Children

SIR,—I was interested to read the views of Dr. Murray Scott in the *Journal* of January 5th (p. 13) on the above subject. In his opening paragraphs he comments on a recent paper of mine in the *Journal*, dealing with a series of children suffering from recurrent attacks of vomiting. I feel I must point out two inaccuracies in these comments. First, he states that I "discovered that on a diet with increased carbohydrate and reduced fat they progressed more satisfactorily." I claimed no discovery, for, of course, this line of treatment has for many years been generally regarded as beneficial in such cases. Secondly, he states that I gave no basis for the hopes held out for the future of these children. Actually I did give a firm basis for such hopes, which will be found set out in my analysis of treatment and progress in the body of the paper, where it is recorded that the majority of the cases in this series did definitely improve under treatment, and did maintain their improvement after the cessation of treatment.

An important aspect of Dr. Scott's article is its confirmation of the well-known fact of how frequently a misdiagnosis of acidosis is made. His final conclusion, "that infection in the nasopharynx is a common cause of recurrent attacks of fever in children," is a truism well deserving of emphasis.—I am, etc.,

London, W.1, Jan. 5th. KENNETH TALLERMAN.

Uveo-parotid Tuberculosis

SIR,—The interest that the recent paper you have published on uveo-parotitis by Drs. Tanner and McCurry (*Journal*, December 8th, 1934, p. 1041) has aroused is evidenced by your correspondence columns.

I feel, however, that caution should be exercised before attributing its causation to the tubercle bacillus. I recently published (*Lancet*, 1934, ii, 748) a report of a case which showed little evidence in support of this hypothesis, and endeavoured to analyse the conflicting evidence. I have since had under observation yet another example of this condition, which also lends but slender support to the tuberculous theory.

This was a woman of 40 with a characteristic bilateral uveitis of ten days' standing preceded by enlargement of the parotid glands, which had subsided before the onset of the uveitis. The presence of facial palsy was unconvincing, the prodromal symptoms comprising only fleeting pains over the limbs. She gave a positive family history of tuberculosis on the maternal side. She was apyrexial while under observation in bed, and abnormal physical signs in the chest and polyneuritis were absent. The Mantoux reaction was positive, the sedimentation rate increased, and the blood picture was normal. An *x*-ray photograph of the chest showed some mottling of the hila of the lungs, but nothing indicative of a tuberculous infection.

I see no adequate reason why this woman's condition should be attributed to a tuberculous infection.—I am, etc.,

London, W.1, Dec. 31st, 1934. C. B. V. TAIT.

SIR,—In reply to Dr. Garland's letter (December 29th, 1934, p. 1220), I should explain that the recent investigation to which I referred was the outcome of an unusual opportunity accorded to me through the admission of two patients to the hospital in which I held a resident post in 1931. One case presented the clinical picture of uveo-parotid tuberculosis, the other that of Mikulicz's disease. I considered the maladies of sufficient interest and originality to constitute the basis of a subsequent thesis in 1932. Hence my introduction to the study of these two absorbing complaints.

I mentioned the association of discharging neck glands since I found distinct history and evidence of such in both of my cases; also literature supplies confirmatory evidence in the case described by Kaitz,[1] and in the family history of that described by Souter.[2] My own observations also very kindly afforded me satisfactory evidence of enlarged hilar glands in both instances, demonstrated on radiological examination; and I note that out of the three cases described by Drs. Tanner and McCurry two exhibited this feature. Such importance was, in fact, given to it that the question was raised by them as to whether mediastinal adenitis could be held responsible for the prodromal symptoms of uveo-parotid tuberculosis. In view of the paucity of post-mortem information the findings of Souter's case in regard to enlargement of the root glands surely assume much significance in the identification of this condition with the disease.

I must confess to being somewhat perplexed at the ambiguity raised by my use of the word "familial." I referred, of course, to inherited infection.—I am, etc.,

Alloa, Dec. 31st, 1934. A. D. MACDONALD, M.D.

Alkaline Treatment of Coryza

SIR,—The very interesting correspondence on the sodium bicarbonate treatment of colds would seem to be the modern counterpart of the old aphorism "Feed a cold and starve a fever." I quote three consecutive sentences from Wright's *Applied Physiology* (fifth edition, p. 395) to show the connexion.

"During gastric secretion HCl is eliminated from the blood, with a consequent tendency to alkalaemia. The same effect is produced by the ingestion of $NaHCO_3$ by the mouth, which is absorbed as such into the blood stream. Again, a vegetable diet contains a relative excess of basic radicles, and so tends to increase the alkalinity of the blood."

The last sentence would suggest that if there is any truth in the bicarbonate treatment vegetarians should be relatively more immune from colds than others. It would be of interest to hear any experience on this point. As alkalaemia tends to diminish the pulmonary ventilation one might fear that this treatment might help the cold, in popular phrase, to "fall on the chest." Have any of your correspondents seen any signs of this? In view of this traditional and modern connexion between alkalaemia and colds it would be of interest if Professor Samson Wright could tell us whether a subject just starting a cold shows any significant change from the normal, as given on the same page of his book—that is, whether the bicarbonate treatment actually causes an alkalaemia or merely counteracts a developing acidaemia.—I am, etc.,

Winsford, Cheshire, Dec. 31st, 1934. W. N. LEAK, M.D.

SIR,—I was interested in the recent letter of Dr. Louise Fraser (*Journal*, December 29th, 1934, p. 1222). Is the acidity or the alkalinity of the urine a ready approximation to the acidity or alkalinity of the tissues? Is a quantitative measurement of the acidity or alkalinity of the urine a near relative approximation to the variations to alkalinity or acidity of the body fluids and tissues?—I am, etc.,

Dublin, Dec. 31st, 1934. JOHN BENTLEY, M.B.

[1] *Brit. Journ. Ophthalmol.*, 1931, xv, No. 1.
[2] *Amer. Journ. Opthalmol.*, 1931, xiv, Series 3, No. 1.

Whither General Practice?

SIR,—In reference to the letter of "F.R.C.S.," appearing in the *Journal* of December 8th, 1934, under the above heading, mention might be made of a scheme that is usual in this Dominion. The parents are invited to be present at the time of the examination of their child at school. It is obvious that the consultation is then of increased value, more details can be obtained of the history of ailments and tendencies of the child, and difficulties can be more fully discussed. When defects are discovered that can be emended, or that call for special provision, a note to that effect is handed to the parents, or, if they are not present, sent to them through the child. Advice is given to seek medical or dental attention, with a request that the note be handed to the medical or dental attendant for his signature and then returned to the school nurse. A record is kept of the note, and if this is not returned within a reasonable time the nurse makes a visit to the home to urge the necessity of the care demanded or, where necessary, to make arrangements for the child's attendance at the hospital or school clinic appropriate for the particular case. Thus a certain responsibility rests with the parent and an opportunity is given for consultation with the family physician. In those cases where this is known to be impracticable a short cut to the clinic may be made, but every effort is made to obtain the co-operation of the parent. As is probably well known, all children, with few exceptions, attend the public schools—that is, those supported out of the school tax. Routine examinations are usually made in the first grade (age 6), in the fifth (age 10), and in the eighth or ninth (age 14–15).—I am, etc.,

Brandon, Manitoba, Dec. 25th, 1934. D.P.H.

A Mental Hospital Clinic

SIR,—Dr. B. H. Shaw (*Journal*, December 22nd, 1934, p. 1177) seems to misunderstand the objection raised to the subordination of the "mental" or "nerve" *clinic* to the mental *hospital*, as represented by "A Medical Superintendent." Any "animus" that exists is directed by "authority" against "psychology," not vice versa, as Dr. Shaw's letter conclusively shows. He writes:

> "In the matter of the milder neuroses no specialist can or should take the place of the family physician, whose good sense and scientific training should enable him to set at their proper value such subtleties as pseudo-psychology, psychoanalysis, dream symbolism, etc."

According to him the family physician's task is to secure for his patient "rest, care, and further investigation, if desirable, away from possibly disturbing home influences."

Merely remarking that the medical, and even the D.P.M., curriculum affords no training whatsoever in psychotherapeutic practice, let us see what happens to the severer cases, where the symptoms cannot be comfortably ignored under the guise of "rest" treatment. Dr. Shaw considers the principal function of a mental clinic is to enable the practitioner "to obtain another opinion as to the suitability of his patient for treatment, away from home." In effect, then, the clinic is to be merely an alienist's consulting room, a recruiting station for the mental hospital, a unit which does not charge itself with the task of increasing the "suitability of the patient to remain at home"; although, after all, this is the aim and essence of cure. By this organization Dr. Shaw has eliminated the professional psychotherapist (as, no doubt, he intended); but, since neither the clinic nor the mental hospital will help in "home" treatment and its responsibility, hospital is the only alternative. Perhaps this is why Dr. Shaw declares (against all evidence): "It is quite impossible for a mental clinic to function satisfactorily if not in immediate touch with a mental hospital." In hospital the patient will apparently receive no attention to personal, domestic, and social problems, but rather an intensive study of bodily processes. "Balance of ions," "diffusibility," "hormones," "chemical mediators," and "intracellular oxidation" are a fair sample of the factors which alone Dr. Shaw considers worthy of attention. He lays it down that "the lesion is primarily physical" and that "stress and strain . . . acting on varying metabolism is the *fons et origo* of mental disorder." We are told that "disordered function is not *possible*" (my italics) "without some underlying physical basis," which basis is obviously conceived as pathological—that is, organic disease.

Allowing that "mental activity is a result of physical process," it is still logically possible that abnormalities of the former (that is, departures from the cultural mean of behaviour) need not be due to defect, damage, metabolic disturbance, or infective disease of the organism, but might be due to the persistence, as habit, defence, etc., of normal reactions to former abnormal stimulation. We psychologists hold, rightly or wrongly, that the latter actually happens, and that psychopathy therefore falls into two categories—first, a group of deterioration or disintegration syndromes due to somatic disorder; and second, a group of "psychogenic" and purposive syndromes due to faulty social adjustment and maturation and consequent conflict and dissatisfaction. Dr. Shaw's remarks seem to us to apply to the first group only. Even the second group has, of course, its neural correlative, which, however, is not pathological, and is totally unknown and probably unknowable. Psychology therefore takes "engrams" and "neural traces" for granted, and neglects them by correlating directly the "dispositions" and behaviour of the subject with his life-history and environmental setting.

The issue, in any case, is one of fact and of method, to be settled by investigation and by argument, and not by the fiat of an "authority" which, in the last resort, is derived from "lay" appointment and legal enactment, and which has no parallel in the general and teaching hospitals. Our alleged "rebellion to all forms of authority" is merely an objection to the *ex officio* (N.B.) appointment of medical superintendents to the charge of clinics ostensibly for out-patient treatment. We believe that if such appointments were the rule it would in many cases introduce a traditional bias prejudicial to the freedom of scientific approach and to the professional prospects of those who persist in "psychological" investigation. We fear that the monopoly of the mental health service, by the mental hospital bureaucracy, will have lamentable results. The public will distrust the clinics, and the latter, anxious and pressed for time, will too readily refer patients to hospital for closer supervision, investigation, and treatment. The "physiological bias" will be favoured, and classes of patients, unfamiliar as yet to the mental hospital physicians, will be studied and treated by them on irrelevant lines, to the neglect of their real problems and to the further discredit of psychiatry.

Notwithstanding what Dr. Shaw and others say, we submit that psychopathology is a "whole-time" specialty; and that the first line of defence, therapeutic and prophylactic, for mental as for physical disease, is the home and not the hospital. We protest, therefore, against the clinic being merely a subsidiary offshoot of the hospital.—I am, etc.,

London, W.C.1, Dec. 31st, 1934. IAN SUTTIE.

Antiseptics in Midwifery

SIR,—Dr. L. P. Garrod (January 5th, p. 35) is in error if he assumes that obstetricians use biniodide of mercury because of a blind faith in Koch's half-century-old dicta; they use it because it has proved consistently satisfactory in countless thousands of cases, evidence which is as sound as that obtained from test tubes. His own results (*British Medical Journal*, 1931, i, 572) show that mercury perchloride diluted 1 in 12,500 inhibited the growth of streptococci in peptone broth to which blood was added. Dr. Garrod's experiments leave the tissues out of consideration, and it would be interesting to hear his explanations of: (*a*) the phenomenon described by Bolton and Brown (*Transactions of the Association of American Physicians*, xii, 488) and further studied by Thiek and Wolff and others; and (*b*) how quinine, emetine, and organic arsenical compounds effect their specific actions in the tissues in dilutions which have no effect on the parasites *in vitro*. It is quite conceivable that it would be definitely disadvantageous to render the vagina sterile, even if it were possible, whereas if the growth of pathogenic organisms be inhibited the tissues can deal with them in a discriminating manner.

In reply to Mr. R. C. Thomas (*Journal*, December 15th, p. 1127): seeing that I believe the toxaemias of pregnancy to be deficiency diseases I naturally believe they can be prevented, but the inescapable fact is that the mortality rate from the toxaemias of pregnancy in England and Wales was higher in 1932 than in 1921. It is difficult to escape the conclusion that ante-natal clinics have led to the loss of a greater number of lives than they have saved.

May I make one final point? So far as can be estimated the 34,000 practitioners in England and Wales do not attend more than 150,000 domiciliary confinements a year, an average of less than five to each doctor. The number of those who deliver fifty patients in the year must be very small. If the mortality rate from puerperal sepsis is to be halved it would mean that a doctor attending fifty confinements per annum should not have more than one fatal case of sepsis in twenty-eight years. We possess the knowledge by which sepsis can be prevented, and it follows that doctors and midwives must faithfully apply the minutiae of treatment proved efficient in hospitals.—I am, etc.,

London, W.1, Jan. 5th. G. W. THEOBALD.

Attempted Abortion as a Factor in Maternal Mortality

SIR,—The unrestrained publicity given to the subject of maternal mortality in this country has brought upon the general practitioner the onus of reassuring, in some fashion or other, those whose duty it is to go on producing noble Britons.

It often happens that the family doctor is consulted at the very beginning of things, perhaps whilst his patient is still leading a contraceptive existence from which she hankers (but dreads for the moment) to depart; more frequently his patient, suspecting with good cause that the worst has already happened, is casting about for some means of escape from the much-advertised menace of maternity. Of course one does have cases in which the morale is excellent, but so many women who appear to be in every way eligible for motherhood refuse to accept the fact of pregnancy until they have tried out a variety of expedients advocated by the friends and neighbours to whom they have communicated their panic. Now if these irresponsible women are, as I believe, a danger to themselves and to their offspring, we should do well to get down to the hard facts of the situation by frank investigation and discussion.

In this country we have no idea of the extent to which abortifacient measures are resorted to; nor do we know the percentage of success attending these efforts. It follows that we cannot assess the permanent injury resulting from them, but we must all be aware that a large proportion of those pregnancies which reach full term actually do so in spite of repeated onslaughts of a chemical or instrumental nature—or both—on the early months of the foetal existence. Is it possible that these cases proceed to the puerperium unimpaired and uninfected by these bungled barbarities? Have these futile atrocities no bearing on maternal, or foetal, morbidity? So strongly do I feel on this point that I tell the nervous prospective mother that no woman has anything to fear in these days if only she will leave well alone and never be tempted to take, or permit to be taken, any steps to abort her pregnancy.

Is such propaganda, however salutary on occasion, justified by the facts? Are there any established facts to sanction such a claim? Data may be available from countries where the liberty of the subject is no obstacle to searching inquiry. Our gynaecological wards and clinics can give some idea of the appalling prevalence of the products and bi-products of incomplete abortion, although unable to give truthful statistics of the relative parts played by accident and design in their incidence. Russia has tackled the problem of sorting the willing from the unwilling passenger by the provision of "abortion wards" in her hospitals, wherein this operation is deliberately carried through with complete success, judged from the point of view of the mother's prompt return to health and duty. It may well be that until similar steps are taken in this country we shall continue to pursue in vain (and at enormous cost) the search for the "elusive factor in maternal mortality."—I am, etc.,

Leeds, Dec. 31st, 1934. A. C. HADDOW, M.B., Ch.B.

The Practice of Midwifery

SIR,—Dr. Walter Radcliffe, in his letter to the *Journal* of December 29th, 1934 (p. 1221), is the first who has had the courage to air a point of view which, though we nobly pretend to ignore it, is of considerable interest to us—namely, the fee obtainable for the bulk of midwifery.

I think it is doubtful if midwifery of the class which is being taken from us by midwives and institutes is worth the work and worry which it involves. Four or five antenatal consultations, the actual delivery (with its disruption of the day's work or the night's sleep), several post-natal visits, and then—an average fee of under two guineas. Perhaps, partly as a result of propaganda in the lay press, the parturient woman seems to feel that the community owes her something, and the omission to pay the doctor is the easiest way of showing it. One step in popularizing midwifery again with the general practitioner would be for the doctor to receive payment direct in those cases in which maternity benefit is obtainable by the patient. At present the nearest he gets to it, all too often, is admiring the new super-wireless set the husband has bought with the money.

The most paying form of midwifery in relation to hours worked is undoubtedly answering "medical aids," sent in by the midwives, and in certain cases I actively discourage patients from booking me direct and send them to the "nurses," with the assurance that I am obtainable if wanted. There is a deal of difference between the possibility of being called and the certainty of being paid one guinea, and the certainty of being called and the possibility of being paid two guineas.—I am, etc.,

Hastings, Dec. 30th, 1934. G. NESBITT WOOD.

Corporal Punishment for Girls

SIR,—Dr. R. L. Kitching invited opinions on the above question in your issue of December 22nd, 1934. During my sixteen years' experience as a school medical officer in the West Riding, Yorkshire, Lancashire, Swindon, and Gosport I have had no complaint from parents or others on the corporal punishment of girls, though quite frequently on its application to boys. In fact, I was under the impression that the big girls never were caned, and I have been frequently told by numerous teachers and girls themselves that they are not. I have even protested against the unfairness of caning boys and sparing the girls.

I am no advocate of corporal punishment, and favour every other form of correction being tried first before recourse to this brutal method, which is more suitable for creatures that can only be made to feel through their skin. If the corporal punishment of girls is as rare as I think it is, the question hardly merits further consideration; so I shall be interested to see what others have to say on this point.

With regard to Dr. Kitching's two objections to caning girls: (1) "It must happen that some of the girls who are caned are suffering severe menstrual pain at the time, so that the pain inflicted must be more severe than was intended, and therefore more severe than is safe": surely the same might be said of a boy who is caned while suffering from toothache, or any other ache, or of a highly sensitive and thin-skinned victim, or of a hefty hitter whose intentions are nicer than his blows. Then again, the safety line is not easily defined or discernible; some children may be damaged by blows which would have little effect on the tougher and less sensitive. Much the same may be said of Dr. Kitching's second objection—namely, "Some of the girls must be suffering from menstrual nervous strain, and the added strain may be more than the girl can safely bear." All will agree, I think, that it is undesirable to increase nervous strain, whatever its cause or whatever the means. But both sexes may suffer from nervous strain, and physical pain is by no means the only or most potent way of increasing it. If caning is to be barred on this ground then any other cause of emotional disturbance should be also. I have heard many children say they would infinitely prefer the stick to an upsetting talk on their misbehaviour.

I cannot therefore agree that Dr. Kitching has given sufficient reasons for any discrimination between the sexes, but I do agree with him that the cane should be the last and not the first resource of the teacher. I think this is the general opinion of the teachers themselves, except, perhaps, those in the public schools, where the worst features of mediaevalism are apt to be perpetuated or shed but slowly and reluctantly. Certainly, in the elementary schools at least, one hears of more humanity and less barbarity than was the case not so many years ago.—I am, etc.,

G. W. FLEMING,
Medical Officer of Health.

Gosport, Jan. 2nd.

SIR,—The correspondence on the above subject, up to the present, has been so one-sided that I feel that something must be said for the opposite point of view. First, however, I must state most emphatically that I loathe and detest cruelty to children of either sex, and my subsequent remarks, therefore, relate only to corporal punishment moderately administered.

The main point I should like to bring out is to ask the question why corporal punishment is said to be beneficial to boys and yet harmful to girls. Can the female sex bear pain less easily than the male? I do not think so, and in any case most child-bearing women have far more pain to bear than any man. Then, surely, if a girl commits an offence for which a boy would receive corporal punishment it is only equable that she should receive the same punishment. In these days of equality of treatment for the sexes I cannot see how this can be gainsaid. In the mixed schools referred to by Dr. Kitching (*Journal*, December 22nd, p. 1178) this is of obvious importance.

Dr. Kitching mentions the menstrual epoch. I cannot follow him at all. Menstruation is a normal physiological process, and could be much better sustained by the adolescent girl if her mother did not make such a fetish of it. Normal menstruation does not produce any invalidity at all, and its neurotic accompaniments are all too often the result of maternal suggestion.

Then to state, as Dr. Fox does (January 5th, p. 38), that epilepsy may follow corporal punishment is surely unsubstantiated by evidence. Epilepsy is not limited to the female sex, and all I can say is that if Dr. Fox is right I should have expected to see our public schools full of epileptic boys, due to the combined ministrations of the head master, the house master, and the prefects to the corporal needs of the boys.

Lastly, with reference to the letter of Mrs. Harriet Smith (January 5th, p. 39), I can only say that I feel considerable sympathy with the Durham miner, who was doing his best in his non-psychological way to prevent his daughter becoming a bad girl. I am afraid that the average parent has not the expert training in psychology which would allow him or her to deal by suggestion with all the offences of their girls. What else could the miner do when moral suasion had failed? How often do girls go wrong and the parents are blamed for their lack of authority? A mere "don't" may be sufficient to control some girls, possibly coupled with a reasoned argument explaining the correct conduct. But is it likely that a Durham miner would be able to make such means of correction sufficiently strong to alter the conduct of some headstrong girl? It is not, and, moreover, parents a great deal better educated also find the greatest difficulty in controlling their children.

It may be said that corporal punishment is degrading. If it is the same statement applies to both sexes. But no one suggests that the public school boy is degraded; he gets his share of corporal punishment. Such punishment is very definitely a deterrent—and to many obstinate and self-willed children the only deterrent—to wrong-doing. Solomon's advice, I feel certain, was not limited to one sex, and I contend that it holds true to-day.—I am, etc.,

F. A. BELAM, M.D.

Guildford, Jan. 6th.

Anaesthesia for Tonsillectomy

SIR,—Since Dr. Shaheen of Cairo has referred to my recent article on tonsillectomy with local anaesthesia in his letter on the same subject in the *Journal* of January 5th (p. 37), may I please be allowed to make some comments on it.

Dr. Shaheen explains that he performs tonsillectomy in children and in "normal adults" with a guillotine, without any sort of anaesthesia at all, and that on occasions he has dissected tonsils without any sort of anaesthesia. In my opinion such treatment is far too heroic, and one can only suppose that his patients must have a physical and mental constitution such as exists nowhere else in the world. Has Dr. Shaheen never heard of psychical shock or trauma? I venture to think that if he would ask the opinion of any number of laryngologists he would not find one in a thousand who would agree that his method is either safe or sound. While the proportion would probably be rather greater, I think also that he would find very few men indeed who would agree that the guillotine is a fit and proper instrument for the removal of adult tonsils, even with a perfect anaesthetic.

The efficient removal of children's tonsils requires relaxation of the faucial pillars, and, personally, irrespective of any regard for the patient, I would certainly not like to attempt such an operation with a guillotine where no anaesthetic was used.—I am, etc.,

Shrewsbury, Jan. 5th. GEOFFREY MOREY.

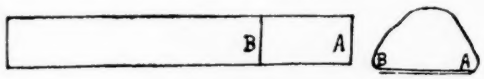
Ingrowing Toe-nail

SIR,—In reply to Dr P. F. Chapman's inquiry (*Journal*, December 8th, 1934, p. 1073) as to the results on the treatment of ingrowing toe-nail by paring with a piece of glass, I have cured myself and many others by the method, exactly as he describes it. It was taught to all students at University College Hospital by the house-surgeons when I was an outdoor dresser in 1898. Used in early stages and intelligently I have never known it to fail.—I am, etc.,

Kyrenia, Cyprus, Dec. 26th, 1934. F. E. BOLTON.

Collodion-gauze Splint

SIR,—Dr. W. S. Creer's admirably worded description (*Journal*, December 29th, 1934, p. 1199) of how a collodion-gauze splint may be adapted to suit the requirements of fractured phalanges or cut fingers will no doubt appeal to many besides myself who are engaged in general practice. I would submit, however, that in conditions where traction is required the following very simple method might find adherents as a possible alternative, inasmuch as the front and back only of the shaft of a phalanx are pulled on, thus obviating lateral compression or stretching, while at the same time leaving the freedom of movement of a distal joint unimpaired. Properly affixed this grip will not slip, and, being rigid, extension can be applied evenly and in exactly the direction desired by means of wire.



Such a "phalangeal grip" is conveniently made in four or five minutes from a strip of tin 1/2 in. by 3¾ in., covered with paper, which is pasted on and dried over a flame.

One end A is bent at a line drawn across it at B (one inch from the extremity), and applied to the palmar surface of the phalangeal shaft midway between the proximal and distal joints; the strip is wound round over the dorsum, and a second bend is made on the opposite side, level with the first bend, and the free end is laid close up against AB. However tight this is bandaged on the lateral vessels will escape compression, thanks to the end A, which checks lateral compression.—I am, etc.,

London, N.W.8, Dec. 29th, 1934. F. A. HORT.

Spontaneous Regression of Cancer

SIR,—As there has lately been correspondence in the *Journal* on the above subject it may be of interest to report some apparent instances of this condition, which I can recall from a rather long experience of practice.

Mrs. E., aged 45, was for some little time under treatment for chronic dyspepsia, but nothing availed. She weakened, became thinner and thinner, the pain and vomiting increased, the latter becoming of the "coffee-ground" type. The skin took on the sallow, earthy hue characteristic of cancer. A hard swelling became palpable in the epigastrium, and with its progressive growth its contour could be seen. The final diagnosis was cancer of the stomach, and a hopeless prognosis was given. Morphine was administered freely to allay the pain and vomiting, and a mixture containing a little dilute nitro-hydrochloric acid, mainly as a placebo. She recovered, and was a strong, healthy woman twenty-five or thirty years after.

Miss D., aged about 45, had a swelling in her abdomen, growing rather rapidly and apparently cystic. She went to Leeds Infirmary, where an operation was decided upon forthwith. The surgeon, on opening the abdomen, found a cancerous growth so extensive as to be inoperable, and he therefore proceeded no further and closed the wound. After a time she was sent back to her home in Rhyl, and when I saw her the abdomen was enormous and she looked like dying very soon. Instead, she got well and remained so for four or five years, when an attack of bronchitis took her off.

Miss J., aged 45, suffered from sarcoma of left eyeball. There was much exophthalmos and sight had been lost. She was sent to a Liverpool hospital. The surgeon there declined to operate, and sent her back with the intimation that she was incurable. The growth gradually subsided and finally disappeared, some sight returning. Four or five years afterwards she was alive and well with no sign of a return.

The following is an instance of the sarcoma returning after a quiescent period of twelve months.

Mrs. E., aged 60, was sent to Liverpool to consult the late Sir W. Mitchell Banks, and he confirmed my diagnosis of sarcoma of the antrum of Highmore. He deemed her case inoperable and incurable. The swelling was very prominent and increasing. Three months after her visit to Liverpool there was hardly a trace of the sarcoma left, and the patient felt well and comfortable. Twelve months later it started again, became very large, and soon ended fatally.

—I am, etc.,

Prestatyn, Jan. 6th. W. THOMAS.

Christmas Gift Fund

SIR,—It is a great pleasure to me to be able to inform you that the total result of the Christmas gift appeal for the Royal Medical Benevolent Fund amounted to £668 14s. 9d. Owing to the generosity and wholehearted support given by your readers we have been able to distribute Christmas gifts (30s. each) to all of our poorest beneficiaries. I have been very greatly impressed in receiving the many letters of thanks from the recipients. All express much gratitude and real sincerity of thanks. To many the gift has brought unexpected comforts and pleasures, to others in their loneliness a sense of friendship.

I am convinced from my personal experience in dealing with the work that the effort so kindly made by you and your readers in raising this special gift fund at Christmas time has been well worth while. I thank all for their co-operation.—I am, etc.,

THOS. BARLOW,
President, Royal Medical Benevolent Fund.

11, Chandos Street, Cavendish Square, W.1, Jan. 3rd.

"The Angel of Death"

SIR,—A good many of us who read Mr. G. Gordon-Taylor's excellent address on "Bad Surgical Risks," in your issue of October 27th, 1934 (p. 755), must have recognized the similarity to John Bright's famous passage, in his speech on the Crimean War. Mr. Garnett Wright, in your issue of November 10th (p. 885), quotes it as: "The Angel of Death has been abroad throughout the land; you may almost hear the beating of his wings."

I am not sure that this version of John Bright's famous passage is correct. I have always heard it as: "The Angel of Death is abroad in the land; you can almost hear the beating of his wings." The rhythm of this version is, I think, far finer than that stated by Mr. Garnett Wright, and much more in keeping with what we know of the great orator's style.—I am, etc.,

Johannesburg, Dec. 5th, 1934. H. TEMPLE MURSELL.

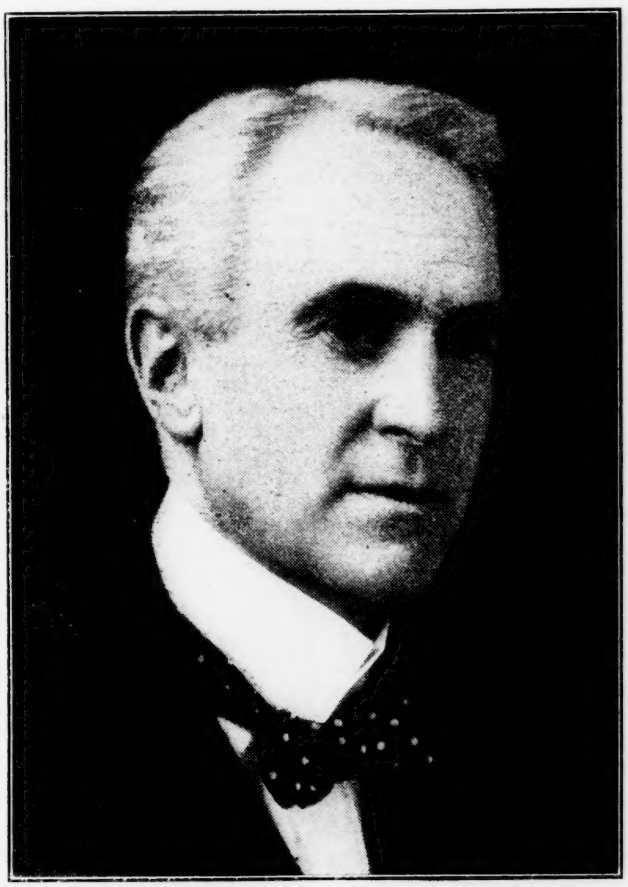
Obituary

SIR MAURICE CRAIG, C.B.E., M.D., F.R.C.P.

Consulting Physician in Psychological Medicine at Guy's Hospital

The death of Sir Maurice Craig occurred, after an illness of some length, on Sunday, January 6th, at his home at Salona, East Preston, near Littlehampton. He had recovered his health and activity after his severe and prolonged illness of several years ago to a remarkable degree, but when he fell ill again this winter it was evident that recovery could scarcely be hoped for.

Sir Maurice was born in 1866, the son of Dr. William Simpson Craig, who was himself interested in psychological medicine. Having begun his education at Bedford Grammar School, he went to Caius College, Cambridge, and graduated with a first-class in the natural sciences tripos in 1887. He then went as a student to Guy's Hospital and took his M.R.C.S. in 1891 and his M.B., B.Ch. in 1892: he became a member of the College of Physicians in 1897 and was elected a Fellow in 1906. Before he gave himself entirely to private practice his experience of psychological medicine was gained principally at Bethlem Royal Hospital, where he was finally senior assistant medical officer. In 1900 he gained the Gaskell gold medal of the Medico-Psychological Society with his paper on "Blood Pressure in the Insane." In 1906, after lecturing elsewhere in mental disease for some years, he was appointed physician for psychological medicine to Guy's Hospital in succession to Sir George Savage. In the ensuing twenty years, during which he held the position of physician to the hospital and lecturer to the medical school, he built up what was probably the largest consulting practice of his time in the specialty which he practised. In addition, he held during the war the rank of lieutenant-colonel, R.A.M.C., and did much work in connexion with soldiers disabled from mental disease and shell shock. Subsequently he was a member of the War Office Committee on Shell Shock, and consulting neurologist to the Ministry of Pensions. For his services he was awarded the C.B.E. in 1919, and in 1921 he received a knighthood.



Craig's public services were notable: he was chairman of the Mental After-Care Association and Governor of the Royal Hospitals of Bethlem and Bridewell, and since his retirement from the active staff of Guy's Hospital he devoted much time and enthusiasm to his chairmanship of the Governors of the Harpur Trust of the Bedford schools. But perhaps the body he regarded with most solicitude, and of which he was virtually the parent, was the National Council for Mental Hygiene, founded by himself and six or seven others in 1922. He became chairman in 1928, having deputized for Lord Southborough for some time previously. In 1930 he took part in the International Congress in Washington and was made vice-chairman of the International Committee for Mental Hygiene. It was a great satisfaction to him to realize that this project was bearing fruit in various lines of activity and was spreading ideals of prevention in mental disease. It was largely by his efforts that the interest of His Royal Highness the Duke of Kent was obtained, with the result that the Duke became President in 1933. Another project that owed much to Craig's foresight was the Cassel Hospital at Penshurst in Kent. Having heard that Sir Ernest Cassel desired to give a large sum of money for some pioneer work in medicine, he decided to urge the erection of a hospital for educated people who were not well off and who were suffering from nervous disorders. His interest had been stimulated by his experience during the war in shell-shock cases. He drew Sir Ernest's attention to the occurrence of such cases in civil life, with the result that the Cassel Hospital was opened in 1921: Craig continued up to the time of his last illness as chairman of the Medical Committee. The success of the hospital for which he had seen the urgent need gratified him immensely, although its development proceeded along lines other than he had originally envisaged; but he was the first to recognize the wisdom of this development and to appreciate the unique value of the hospital's contribution under Dr. T. A. Ross's direction. Among his many other activities Craig was Bradshaw lecturer of the College of Physicians in 1924, and Maudsley lecturer to the Royal Medical Psychological Association in 1922, and his colleagues honoured him by electing him president of the Section of Neurology and Psychological Medicine of the British Medical Association in 1925 and again at the Centenary Meeting in 1932. In 1928–9 he was president of the Psychiatric Section of the Royal Society of Medicine; he was also examiner in psychological medicine for the Universities of London and Cambridge and for the Royal College of Physicians.

Craig's achievements were many and his work varied; his success was great. All ranks of society found in him an adviser whom they liked and implicitly trusted, and his popularity was somehow of the type that avoided provoking envy. He bore his honours with modesty and was outwardly at least quite unmoved by them. The success which attended the schemes in which he sank his identity in the common weal pleased him beyond measure. His colleagues at Guy's found in him a constant and trusted friend. Those who worked with him on committees were often thankful for his business ability and his sense of fitness. His students enjoyed his distinguished appearance and the tasteful neatness of his dress—he

looked so much the part. But only those who were happy enough to have his closer friendship knew what idealism, what loyalty and kindliness of heart, and what courage lay underneath his charming and urbane exterior.

[The photograph reproduced is by Elliott and Fry, Ltd.]

WILLIAM ARTHUR EVELYN, M.D.

We regret to announce the death on January 6th, in his seventy-fifth year, of Dr. W. A. Evelyn of Water End, Clifton, York. Educated at Cambridge, where he took his B.A. degree in 1882, he went to St. Thomas's Hospital, receiving his medical training there and later at Vienna. He obtained the M.R.C.S., L.R.C.P. in 1887, the M.B.Cantab. in the same year, and graduated M.D. in 1891. At one time house-physician to the Brompton Hospital, Dr. Evelyn held the post of medical referee to several insurance companies. He first went to York in January, 1891, and it was there that he practised for nearly forty-five years, becoming senior member of the medical staff of the County Hospital. His interests were by no means confined to medical practice, and one of his keenest activities was the preservation of York and its antiquities. In a description of a meeting of the York City Council, published in the *Yorkshire Herald* of January 8th, the Lord Mayor, in moving a resolution of condolence with Dr. Evelyn's family, is reported as saying that the people of York were very grateful for the service Dr. Evelyn had rendered towards the welfare and beautifying of the city: they did not always agree with him, but everyone recognized the honesty of his spirit and the love he had for the city of his adoption.

Dr. PETER MACDONALD writes:

A notable figure in the medical life of Yorkshire has passed away in the person of William Arthur Evelyn, who for so many years was a general medical practitioner in the city of York. Always liked and also respected for his professional abilities as well as for his personality, he came to be regarded later on in his career as the leader of the profession in and around the city. He stood, as few men anywhere have done, for the solidarity of the medical profession and for harmonious professional relations. It can fairly be said that his influence contributed largely towards making the members of the profession within a wide environment recognize that it is in the best interests of all that they should also be members of a happy family. Those of us who are of the older generation have, I fancy, noticed the change in this respect which has appeared generally in the profession during our lifetime, but there are not many places which have had such a figure as that of Evelyn to give an impetus to the good work.

For many years Evelyn was senior member of the honorary staff of the York County Hospital and chairman of the Medical Board. I remember one occasion when he was invited to open an addition to the Nurses' Home. The nursing staff seized the opportunity spontaneously to make a small personal presentation to him, which was given to the "beloved physician," and this was characteristic of the feeling entertained for him at the hospital. Keenly alive to the need for professional organization, he was an invaluable committee man, assiduous in his attendance until ill-health interfered—indeed, a little intolerant at times of those who did not attend so regularly or so punctually. He never shirked work, and was a more than useful member of the local Division of the British Medical Association, occupying the post of chairman from 1922 to 1924. He was chairman of the Panel Committee for many years, and held the office of president of the York Medical Society. Outside his work he was an archaeologist of no little knowledge. The ancient architectural beauties of the city of York made for him an ideal setting, and he regarded the preservation of these beauties as his special province. The modern vandalism which, here as elsewhere, has destroyed so much of interest and beauty, rather embittered his last years.

In his young days he was no mean athlete, and was captain of the Old Carthusians in their palmy days, when the Walters brothers, who played in the team, were names to conjure with in the Association football world.

Dr. ROBERT WHINERAY LEEMING of Kendal died on December 19th, 1934, at the age of 75. He studied medicine at the Universities of Cambridge and Edinburgh, and qualified M.R.C.S. and L.S.A. in 1883. In the following year he graduated M.B.Cantab., and proceeded M.D. in 1891. He had practised in Kendal for fifty-two years, succeeding his father, who also practised in Kendal for over forty years. Father and son lived in the same house for nearly a century. For twenty-one years Dr. Leeming was surgeon to the Westmorland County Hospital. When he resigned in 1926, after forty-three years' service as medical officer to the Kendal Union, he received a public presentation. He retired from the position of police surgeon two years ago.

Dr. GEORGE MONTAGU HARSTON, who died at Putney on December 21st, 1934, at the age of 61, was a well-known ophthalmic specialist in Hong-Kong for many years. Educated at Charing Cross Hospital, he obtained the diplomas M.R.C.S., L.R.C.P. in 1898, graduated M.B. London in 1904, and proceeded to the M.D. five years later: in 1914 he received the diploma in ophthalmology of Oxford. Going out to Hong-Kong Dr. Harston quickly built up a considerable general and ophthalmic practice, and was appointed ophthalmic surgeon to the Tung Wa Hospital; he was also lecturer in ophthalmology to the University. He subsequently returned to England, and began a consulting practice in London. Among his publications were a book on the treatment of European children in the Tropics and articles to the *British Medical Journal* and the *China Medical Journal* on the treatment of trachoma. Soon after qualification he joined the British Medical Association, was a representative in the Representative Body in 1914, and president of the Hong-Kong Branch in 1924–5.

The death took place on December 30th, 1934, at his residence, Bruntsfield Terrace, Edinburgh, of Dr. GEORGE WILSON GALLETLY, who for many years was a well-known practitioner on the south side of Edinburgh. Dr. Galletly was born in Fife, and after a medical course at Edinburgh University graduated M.B., C.M. in 1882. He is survived by his son, Dr. Alexander Galletly, who is engaged in obstetrical and gynaecological practice in London.

Dr. MARY MARGARET O'LEARY, who was lost overboard during a Christmas cruise in the Mediterranean, was well known in Dublin and Ireland generally for her devoted work in connexion with child welfare schemes. Dr. O'Leary received her medical education in Galway and Dublin, where she graduated M.B., B.Ch., B.A.O., with honours in 1915, and obtained the D.P.H. in 1923. She had held the appointments of medical officer to the maternity and child welfare department of Manchester, anaesthetist to Dr. Steevens's Hospital, Dublin, medical officer, attached R.A.M.C., to the King George V Hospital, Dublin, assistant medical superintendent to the Cork Street Fever Hospital, and, latterly, assistant medical officer of health in Dublin. Elected a member of the British Medical Association in 1931, she was a Representative of the Dublin Division at the Annual Meeting of the Association at Bournemouth last year. She had recently been in poor health.

Dr. JOHN HALAHAN, who died at his residence in Buenos Aires on August 30th, 1934, at the age of 65, was a son of the late Dean Halahan, and received his medical education at Trinity College, Dublin, where in 1892 he graduated M.B. He went out to Buenos Aires four years later, and was appointed assistant medical officer to the British hospital in that city. A year or two later he began general practice there, and was soon after elected physician to the Alvear Hospital. He later became physician to the Hospital de Clínicas, which appointment he held until his death. For many years he took a keen interest in yacht racing, and his yacht, the *Banshee*, was well known on the River Plate. From time to time he contributed instructive and amusing articles on this sport to British magazines and newspapers. He was a prominent Freemason, a P.M. of the Victoria Lodge, and an officer of the District Grand Lodge of South America, Southern Division. His professional abilities and his wide outlook on life brought him very many friends, particularly in the local British community, by whom his death is mourned.

The Services

HONORARY SURGEON TO THE KING

Major-General Sir Frank P. Connor, Kt., D.S.O., I.M.S., has been appointed Honorary Surgeon to the King, *vice* Brevet Colonel G. D. Franklin, C.I.E., O.B.E., I.M.S.

DEATHS IN THE SERVICES

Surgeon Rear-Admiral Ernest James Finch, C.M.G., R.N. (ret.), died suddenly at Yelverton on December 22nd, 1934. He was born in 1864, the son of Chief Inspector of Machinery James J. Finch, R.N., was educated at St. Mary's, and took the M.R.C.S., L.R.C.P.Lond. and L.S.A. in 1891, and also the M.D. at Brussels, with honours, in 1901. He entered the Navy as surgeon in February, 1891, became staff surgeon in 1899 and fleet surgeon in 1907, was promoted to surgeon captain in June, 1920, and retired with a step as surgeon rear-admiral on October 1st, 1923. As surgeon of H.M.S. *Alecto* he served in West Africa in the Benin expedition under Rear-Admiral Bedford in 1894, was present at the reduction of Brohemie, and received the African general service medal with a clasp for Benin. When the late war began, in August, 1914, he went with the Royal Naval Division to Belgium, served at Antwerp, and was mentioned in dispatches; afterwards in Gallipoli, as A.D.M.S. of the division, and received the C.M.G. In 1917 he accompanied the division to France, and was present at the battle of Beaumont-Hamel. In November, 1917, he was appointed medical officer of H.M.S. *Valiant*. On promotion to surgeon captain in June, 1920, he was posted to Portsmouth, and served there till his retirement. In 1900 he married Dorothy, daughter of Alfred Barrett, Esq. He leaves a widow and one daughter.

Deputy Inspector-General George Despard Twigg, R.N. (ret.), died at Southsea on December 15th, 1934. He was educated in Dublin, and took the L.R.C.S.I. in 1875, the L.K.Q.C.P. in 1876, and subsequently the F.R.C.S.I. in 1884. He attained the rank of fleet surgeon on September 22nd, 1893, and retired as D.I.H. on February 1st, 1908. He was in receipt of a Greenwich Hospital pension.

Lieut.-Colonel George Frederick Alexander Smythe, R.A.M.C. (ret.), died at Dover on November 9th, 1934, aged 77. He was born at Quebec on July 25th, 1857. He took the L.R.C.S.I. and the L.R.C.P.Ed. in 1879; also subsequently the F.R.C.S.Ed. in 1888, and the D.P.H. of the Irish Colleges, with honours, in 1903. Entering the Army as surgeon on March 6th, 1880, he became lieutenant-colonel after twenty years' service, and retired on March 11th, 1905. He served in the Nile expedition of 1898, was present at the battle of Khartum, was mentioned in dispatches in the *London Gazette* of September 30th, 1898, and received the medal, and also the Egyptian medal with a clasp. He rejoined for service in the war of 1914–18, when he served as commandant of the Lady Wantage hospital for discharged convalescent soldiers at Welford Park, Berks.

Lieut.-Colonel Patrick Manson Rennie, Indian Medical Service (ret.), died in a nursing home at Norwich on December 23rd, 1934, aged 50. He was born at Hong-Kong on August 8th, 1884, the son of Dr. T. Rennie of Foochow, and named after Sir Patrick Manson; was educated at Aberdeen, where he graduated M.B., Ch.B. in 1906, and subsequently took the D.P.H. in 1913 and the Diploma in Tropical Medicine at Cambridge in 1912. Entering the I.M.S. as lieutenant on February 2nd, 1907, he became lieutenant-colonel on August 2nd, 1926, and retired on August 23rd, 1928. In 1913 he entered civil employ in the Central Provinces, but was soon recalled to military duty in the war, rejoining the C.P. in 1921 as civil surgeon of Raipur. He served in the war of 1914–18 in Gallipoli and Mesopotamia, and later in Waziristan, on the North-West Frontier of India, in 1919, and was mentioned in dispatches in the *London Gazette* of January 28th, 1916. After his retirement he went into practice at Diss in Norfolk. He leaves a widow, Dr. Gertrude Rennie, M.B., Ch.B., a daughter of the Rev. Dr. John Lendrum of Elgin.

Universities and Colleges

UNIVERSITY OF LONDON

The following candidates have been approved at the examinations indicated:

M.S.—*Branch I (Surgery)*: E. A. Devenish, A. L. Eyre-Brook. *Branch III (Ophthalmology)*: L. H. Savin (University Medal).

M.D.—*Branch I (Medicine)*: Cécile H. D. Asher, Julia C. H. Avery, C. G. Barnes (University Medal), A. C. Byles, A. M. Gill, D. V. Hubble, E. B. Jackson, R. Knox, H. G. McGregor, R. T. Payne, E. F. Scowen, W. R. C. Spicer, Bertha Turner, Albertine L. Winner. *Branch II (Pathology)*: Rosa O. J. Clark, Sigiberto J. M. De Navasquez. *Branch III (Psychological Medicine)*: D. Shaw. *Branch IV (Midwifery and Diseases of Women)*: B. Gilbert, W. P. Hedgcock, Esther M. Martin, Mary H. Mayeur. *Branch V (Hygiene)*: F. R. Dennison, Ll. Roberts, S. L. Wright.

QUEEN'S UNIVERSITY, BELFAST

The winter graduation ceremony was held on December 21st, 1934, when the Vice-Chancellor conferred the following medical degrees:

M.D.—E. Davison (with commendation), J. M. Gray.

M.B., B.Ch., B.A.O.—Adelaide E. Anderson, Sheila W. Black, R. B. Boal, R. C. Brien, B. N. Eedy, H. F. L. Gallaher, E. T. Goldblatt, S. Graham, G. E. Gray, Mary E. Hegarty, H. R. D. Ireland, J. R. McWhirter, G. A. Scott, G. T. Thompson.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Lectures

The course of lectures for 1935 is arranged as follows: January 14th, Prof. Harold Burrows, Some observations on sex hormones in relationship to pathological lesions of the mamma; January 16th, Prof. W. Rowley Bristow, Internal derangement of the knee-joint; January 18th, Prof. Lambert Rogers, The surgery of spinal tumours; January 21st, Prof. T. Pomfret Kilner, The transplantation of skin; January 23rd, Prof. Laurence O'Shaughnessy, The surgery of the lung root; January 25th, Prof. Macdonald Critchley, The morphology of the cerebro-spinal arteries and their clinical significance; January 28th, Prof. B. W. Rycroft, Recent investigations in the aetiology and treatment of glaucoma; January 30th, Prof. G. C. Knight, The innervation of the oesophagus in relation to the surgical treatment of achalasia of the cardia; February 1st, Prof. C. Bowdler Henry, The aetiology and treatment of misplaced third molars; February 4th, Prof. H. J. Seddon, The morbid anatomy of caries of the thoracic spine in relation to treatment; February 6th, Prof. James F. Brailsford, Dystrophies of the skeleton; February 8th, Prof. C. Max Page, The late results of the operative treatment of osteoarthritis; February 11th, 13th, and 15th, Dr. John Beattie, Three lectures on the anatomy and physiology of the hypothalamus—(1) The central mechanism controlling the cardiovascular system, (2) The relation of the hypothalamus to the gastro-intestinal tract, and (3) The nervous control of metabolism and the relation of the pituitary gland to the hypothalamus. The lecture hour is 5 p.m.

SOCIETY OF APOTHECARIES OF LONDON

The following candidates have passed in the subjects indicated:

SURGERY.—J. W. D. Bull, H. W. Smithies.

MEDICINE.—J. E. Garson, W. J. Pinto.

FORENSIC MEDICINE.—S. Adams, H. Burrows, J. E. Garson, G. R. Hopper, N. R. James, S. Krishman, A. Lassman, T. I. Palmer, W. J. Pinto, H. L. Williams.

MIDWIFERY.—G. E. Ftyaras, A. Lassman, N. O. Lucas, G. W. van Mentz, G. Williams, W. C. Winterbottom.

The diploma of the Society has been granted to Messrs. J. W. D. Bull, A. Lassman, and G. Williams.

Medical News

Dr. H. H. Kessler of Newark, New Jersey, will deliver the Hunterian Lecture on "Rehabilitation Surgery" before the Hunterian Society at the Mansion House on Monday, January 14th, at 9 p.m.

A lecture on "Humidity, Health, and some New Inventions" will be given by Mr. Charles L. Burdick before the Royal Society of Arts, John Street, Adelphi, W.C.2, on Wednesday, January 23rd, at 8 p.m.

Sir William Willcox will open a debate on focal sepsis at the London Jewish Hospital, Stepney Green, E., on Thursday, January 17th, at 3.45 p.m. Dr. E. Stolkind, Dr. C. Worster-Drought, and Professor E. Fraenkel will also speak.

A course of lectures on recent advances in vision and hearing will be given before the Royal Institution (21, Albemarle Street, W.) by Professor H. Hartridge, M.D., F.R.S., on Thursdays, January 17th, 24th, 31st, and February 7th at 5.15 p.m.

A series of clinical lectures on diseases of the nervous system will be delivered every month at La Salpêtrière by Professor Georges Dumas and Drs. Clovis Vincent, J. Lhermitte, T. Alajouanine, M. Féron, and A. Souques, beginning on January 25th.

The British Institute of Philosophy announces that an address will be given by Sir Herbert Samuel on "Philosophy, Religion, and Present World Conditions," at University College, Gower Street, W.C.1, on Tuesday, January 22nd, at 8.15 p.m. Application for tickets should be made to the Director of Studies at University Hall, 14, Gordon Square, W.C.1.

The annual meeting of the Royal Microscopical Society will be held at B.M.A. House, Tavistock Square, W.C., on Wednesday, January 16th, at 5.30 p.m., when the officers and council for the ensuing year will be elected, and Professor W. A. F. Balfour-Browne will deliver his presidential address on "Species Characters."

A joint meeting of the Sections of Neurology and Psychiatry of the Royal Society of Medicine will be held at 1, Wimpole Street, W., on Thursday, January 17th, at 8.30 p.m., when a special discussion on "Mental Defects from the Neurological and Psychiatric Standpoints" will be opened by Dr. R. Mackenzie Stewart and Dr. Noel Burke (neurology) and Professor R. J. A. Berry and Dr. C. J. C. Earl (psychiatry).

A clinical meeting of the Kensington Division of the British Medical Association will be held at the Princess Beatrice Hospital, Richmond Road, S.W., on Friday, January 18th, at 8.45 p.m., when, by arrangement with the medical staff of the hospital, and by kind permission of Mr. Bertram Mills, there will be a demonstration of the human oddities and freaks appearing at the Olympia circus, including giraffe-necked ladies, leopard-skinned women, the ostrich man, and a 24-year-old woman who is two feet tall. All medical practitioners are invited to attend.

The following post-graduate courses will shortly be held at the Medical Faculty of Vienna: general paediatrics, February 25th to March 9th; gynaecology and obstetrics, February 25th to March 4th; and dermato-syphiligraphy, February 25th to March 7th. Further information can be obtained from Dr. Kronfeld, Porzellangasse 22, Vienna IX.

The Fellowship of Medicine (1, Wimpole Street, W.) announces that a lecture-demonstration on organic dyspepsia will be given at 11, Chandos Street, W., on January 18th, at 4.15 p.m., and the lecture on January 25th will be on vomiting. At the Wellcome Museum of Medical Science on January 17th, at 3 p.m., Dr. C. M. Wenyon will give a pathological demonstration on some new aspects of malaria; and on January 24th Dr. William Evans will give a demonstration on electrocardiograms. A week-end course in diseases of the heart and lungs will be given at the Royal Chest Hospital, City Road, E.C., occupying the whole of January 19th and 20th. In the surgical tutorial classes at the National Temperance Hospital on Tuesdays and Thursdays at 8 p.m. the subjects will be as follows: January 15th, Mr. Rocyn-Jones, chronic diseases of bones; January 17th, Mr. A. J. Cokkinis, diseases of the joints; January 22nd, Mr. R. C. Brock, injuries to bones; January 24th, Mr. T. Holmes Sellors, thorax. Post-graduates may attend single evenings if they wish. Dr. Kenneth Harris will give a special demonstration of electrocardiograms for M.R.C.P. candidates on January 23rd at 8.30 p.m. at 11, Chandos Street, W. "Talkie" films on the rehabilitation methods of treatment and training of the physically handicapped will be shown by Dr. H. H. Kessler at the Western Electric Company's Theatre, Bush House, Aldwych, at 8.30 p.m. on January 31st, when all members of the medical profession and their friends will be welcome. Other forthcoming courses include urology at St. Peter's Hospital, January 21st to February 2nd; dermatology at St. John's Hospital, January 28th to March 2nd; manipulative surgery, four successive days, from January 29th, at 5.15 p.m., at 11, Chandos Street, W.; and a week-end course in medicine and surgery at the Southend General Hospital, all day February 2nd and 3rd. With the exception of the dermatology course at St. John's Hospital and the special demonstration of "talkie" films, courses, demonstrations, etc., are open only to members and associates of the Fellowship.

An international medical automobile tour is to be conducted in Naples and Sicily from April 13th to May 2nd. The places to be visited include Vesuvius and Pompeii, Capri, Amalfi, Paestum, Taormina, Syracuse, Etna, Palermo, and Messina. The cost of the tour will be 3,300 French francs, which will include second-class train fare from the Italian frontier to Naples and back; hotel accommodation; travel expenses; and fees to guides. Further information is obtainable from Dr. Cavro, 15 Rue Jules Ferry, Paris XIII.

Dr. L. Haden Guest, secretary of the Leverhulme Research Fellowships, announces that applications are invited for fellowships or grants in aid of research. They are intended for senior workers who are prevented from carrying out research by routine duties or pressure of other work. Any subject which may add to human knowledge may be proposed for a fellowship, but preference is given to subjects in which other provision for research is inadequate. The amount granted will depend on the nature of the research and the circumstances of the applicant. Forms of application, returnable by March 1st at latest, may be had from Dr. Haden Guest, Union House, St. Martins-le-Grand, E.C.1.

At a meeting of the court of the directors of the Society for Relief of Widows and Orphans of Medical Men, held on January 2nd, with Mr. V. Warren Low, president, in the chair, the sum of £1,945 was voted for the payment of the half-yearly grants to the fifty-three widows and eight orphans in receipt of relief. £660 had been distributed as a Christmas present. Widows over 75 years of age received £15 each, and those under 75 and the orphans £10 each. The deaths of two widows were reported: one, whose husband joined the society in 1875 and died in 1920, received in grants £1,210; and the other received £955 (her husband became a member in 1901 and died in 1923). The society grants relief to the necessitous widows and orphans of deceased members. Membership is open to any registered medical man who at the time of his election is residing within a twenty-mile radius of Charing Cross. Full particulars and application forms for membership may be obtained from the secretary at 11, Chandos Street, Cavendish Square, W.1.

The National Institute for the Blind has just issued a Braille edition of *Food, Health, and Vitamins* by R. H. A. and V. G. Plimmer.

Among the latest contributions to King Edward's Hospital Fund for London is the sum of £1,000, being the annual subscription of His Majesty The King, Patron of the Fund.

The following medical promotions in, and appointments to, the Venerable Order of the Hospital of St. John of Jerusalem are announced in the *London Gazette* of January 1st: as Knight of Grace, Dr. J. J. Holland; as Commander, Dr. W. H. Turton; as Officers, Lieut.-Colonel R. M. Gorssline, D.S.O., Dr. A. Lessard, Colonel H. D. Johnson, Dr. J. Prior, Major-General Sir Frank P. Connor, D.S.O., I.M.S., Dr. Florence Barrie Lambert, C.B.E.; as Associate Officer, Lieut.-Colonel K. K. Chatterji; as Serving Brothers, Dr. D. W. H. Mackie, Dr. W. H. Rigby, Dr. W. P. Hay, Dr. M. Hunter, Lieut.-Colonel D. L. Hamilton, R.A.M.C., Captain H. A. Fenton, Dr. B. Hart, Dr. F. W. P. Sullivan, Major R. B. C. Thomson, V.D., Major N. F. C. Burgess, Dr. A. Kefalas, Lieut.-Colonel C. W. Eames, D.S.O., T.D., Dr. A. G. Gamble; as Associate Serving Brothers, Dr. J. D. Desai, Major S. A. Paymaster, Dr. H. G. Goldwater, and Major A. N. Sharma, I.M.S.

On the occasion of the tenth anniversary of its foundation the Belgian National League against Cancer has organized a series of lectures by persons of international eminence. The first lecture was delivered by Professor Deeman of the University of Amsterdam on November 22nd, 1934, in the Palace of the Academies at Brussels, and was attended by the Queen of the Belgians, the Dutch Ambassador, and the Minister of the Interior.

The issue of the *Journal de Médecine de Lyon* for December 20th is devoted to morbid anatomy.

The medical faculty of Munich and the Tübingen faculty of Natural Science have each nominated the publisher, J. F. Lehmann of Munich, doctor *honoris causa* on the occasion of his seventieth birthday.

Professor A. von Eiselberg, president of the Medical Society of Vienna, has been nominated doctor *honoris causa* of the University of Paris.

A new Roentgen-Radium Institute, containing 300 beds, is being erected in Leningrad.

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs. Authors over-seas should indicate on MSS. if reprints are required, as proofs are not sent abroad.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBER** of the British Medical Association and the *British Medical Journal* is EUSTON 2111 (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR OF THE *BRITISH MEDICAL JOURNAL*, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 18, Kildare Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

QUERIES AND ANSWERS

Wine for Prostatic Case

"MEDICO" writes: Could any of your readers suggest a suitable light wine, medium dry, palatable, and non-acid, price moderate, for a man who suffers from slightly enlarged prostate? He drinks two wineglassfuls with lunch at 1.30 p.m., and two at dinner at 8 p.m. He has had to give up whisky altogether.

Post-herpetic Neuralgia

Dr. MORRIS CUTNER (clinical assistant, physiotherapeutic department, St. Mary's Hospital, London, W.) writes: I have found post-herpetic pain relieved by (1) local irradiation with red light for fifteen to twenty minutes, of that portion of the spinal column whence arise the nerves corresponding to the distribution of the herpetic condition, followed by (2) a suberythema dose of general ultra-violet light irradiation with a mercury vapour lamp. Six treatments at three-day intervals usually effect a cure. The red light penetrates the tissues more deeply, and produces, in the deeper tissues, a localized counter-irritant effect and hyperaemia, which help the dorsal ganglia involved to recover their normal condition. The ultra-violet light improves the general condition, and hence the recuperative power of the patient. Ultra-short-wave therapy would appear to be an even better method, not only in the treatment of the neuralgia, but also of the preceding herpes, for by its use a definitely deeper and localized hyperaemia can be obtained, and possibly, also, an action on the causative organism similar to that which appears to be produced by ultra-short-wave therapy in the treatment of other inflammatory processes. I am hoping to test this when opportunity occurs.

Dr. J. FINCH HAINES (London, N.2) writes: I think it is the general experience that after herpetic attacks in old people the pain is very persistent and difficult to alleviate. I have found that the most efficient means of relief is obtained by touching quickly and frequently along the course of the nerves (but so lightly as not to blister) with a Paquelin's cautery, heated to a dull red heat. In the pain of ordinary neuritis I have almost invariably found this treatment also effective.

Dr. M. E. ORMSBY (London, W.1) writes, in reply to Dr. H. Lewis-Philipps's query (December 22nd, 1934): I suggest ultra-violet therapy. The dose should be "suberythema" and given twice or thrice weekly to the affected area. I have never known it fail to give some measure of relief, usually great relief after several treatments. Of course, the usual examination should precede treatment in case ultra-violet light is contraindicated for the particular patient.

Aural Diphtheria

Dr. ARTHUR TODD (Thornley, Co. Durham) writes in reply to Dr. W. A. Mayne's letter of December 22nd, 1934, relating to aural diphtheria: I recall a case which I had five years ago. A child, 2 years old, had otorrhoea following measles, and after three other children in the house had developed faucial diphtheria a swab was taken of the aural discharge and reported to contain diphtheria bacilli. The ear was certainly running before the other children developed diphtheria, but whether the diphtheria bacilli in the discharge were the cause or the effect of the other cases I cannot say. From statistics of the Metropolitan Asylums Board fever hospitals the frequency of otitis in diphtheria ranged between 4.01 and 7.42 per cent. during the period 1900–9.

Dr. A. C. TURNER (school medical officer, county borough of Rotherham) writes: In the course of a hunt for diphtheria carriers in 1927, I took swabs from all children with chronic discharge from the ears who were attending the school clinics in this town. These children were about twenty in number, and in approximately two-thirds of them typical diphtheria bacilli were found to be present. Virulence tests were carried out in all these cases, and the bacilli were proved to be non-virulent in all but three cases. I understand that it is quite common to find non-virulent diphtheria bacilli in any wound which has been discharging for a considerable time.

Surface Anaesthesia for Mucous Membranes

Major F. R. W. K. ALLEN, I.M.S. (Raipur, C.P.), writes: As no one else has replied to Colonel Rowcroft's query in the *Journal* of August 25th (p. 380), I venture to suggest "pantocain" (Bayer's) as a surface anaesthetic for mucous membranes. I find it perfect for eye, nose, and throat operations. It can also be used for infiltration anaesthesia. All particulars can be obtained from the makers, with whom I have no connexion whatever.

Income Tax

Appointment Expenses

"RESEARCH" is married and has (*a*) £350 less 5 per cent. superannuation from a teaching appointment, (*b*) £150 from a research studentship, and (*c*) £25 for certain routine duties. Specific research expenses are met from an outside source, but "Research" expends £40 annually in attending

scientific meetings and, say, another £40 in the purchase of books, journals, and miscellaneous expenses.

*** Unless "Research" is required by the conditions of his appointment to attend meetings, purchase journals, etc. the expenses would probably be held *not* to be incurred "wholly, exclusively, and necessarily in the performance of the duties of his office"—as a teacher. Possibly, however, a less rigid view may be taken of a claim to a deduction from the research studentship. Assuming that one-half—that is, £40—of the total expenses are allowed "Research" would be liable as follows:

Appointment	£350 – £17 10s. =	£332 10 0
Studentship	£150 – £40 =	£110 0 0
Other work		£ 25 0 0
		£467 10 0
Earned income relief (1/5)	£ 93	
Personal allowance	£150	£243 0 0
		£224 10 0
£175 at 2s. 3d.		£19 13 9
£49 10s. at 4s. 6d....		£11 2 9
Total tax... ...		£30 16 3

Earnings and Property

"X. Z." gives particulars of his income, and asks what is the amount of tax payable.

*** It may be that some of the life insurance premiums are liable to be restricted for the income tax allowance to 7 per cent. of the capital sum assured. If not the tax payable by "X. Z." is approximately £70 under Schedule E, and £7 under Schedule A. In fact, it may prove a few pounds over that amount.

LETTERS, NOTES, ETC.

New Year Honours: Addendum

The medical New Year Honours List, published in our last issue at page 26, should have included the name of Mr. Guy Capper Birt, M.R.C.S., L.D.S., Surgeon Dentist to H.M. the King, as a recipient of the C.V.O.

High Temperature Preceding Death

Dr. FERGUS MCKENNA (Ayr) writes: The following case is of interest. I was called to see a young man, aged 35, in consultation with Dr. Allan Muir of this town. The patient was of very fine physique, with largely developed muscular system. He had been ill for a week with a moderate attack of rheumatic fever, temperature varying from 100° to 102° F. He was seen on the morning of December 15th, and his condition was satisfactory. At 6 p.m. he became suddenly comatose. I saw him with Dr. Muir at 8 o'clock. He was deeply comatose: face flushed, with stertorous breathing. On auscultation of heart there were various murmurs to be heard—evidently a marked endocarditis had set in. His condition pointed to a "pontine haemorrhage" having taken place. I took the temperature under the armpit, which registered 109.2° F. This was corroborated by using Dr. Muir's thermometer. The patient died half an hour after examination. His temperature in the mouth would probably have reached 110° F. It would be interesting to know what has been the highest temperature recorded in disease.

Economic Aspects of Suicide

"M.D., D.P.M." (Huddersfield) writes: May I congratulate Dr. John Leishman on his excellent letter on the economic aspects of suicide (*Journal*, December 29th, 1934)? Not only is the financial system directly or indirectly responsible for the greater number of suicides, but also it renders needlessly difficult almost every problem with which the medical profession is faced at present. It is idle to say that the field of finance and economics is beyond the legitimate scope of the medical man. The scientific distribution of purchasing power is as important from the medical point of view as is the water supply. And since Major C. H. Douglas is the only thinker in this field who seems to have constructive ideas, I recommend the study of his works to all medical men and women.

"Locking Children In"

The director of the National Society for the Prevention of Cruelty to Children writes to express the grave concern felt by his society at the increasing practice of leaving children locked up in the house alone, reports as to which reach him from all parts of the country and all classes of homes. "Apart from distressing fatalities which have resulted, the practice is one which, to young children, involves very serious risks of a mental and psychological character. It is a rather terrible ordeal to a young child to wake in a dark and deserted home; to call and receive no answer. In all such cases reported to them the society's inspectors have shown the parents that with good will and management these risks can be avoided. Arrangements have with frequency been made that a kindly neighbour shall be in attendance where parents are unwilling to forgo each other's company on their pleasure-bent expeditions or leave home for other causes."

A Centre for Child Care

The St. Pancras House of Fellowship, which is affiliated to the Shaftesbury Society, conducts an open-air elementary school centre, a play centre, a children's library, educational classes, and various clubs and organizations for children in Euston Square. During 1934 the school centre accommodated more than 130 children, many of whom had been sent by school medical officers from neighbouring schools, in order that supervision as regards rest, meals, work, and play might be provided, so lessening the risk of tuberculosis as well as of other diseases. In spite of the strides made in this area in the improvement of housing, many families are still badly overcrowded, and the relief afforded by this institution is very marked. Visitors are welcome, and further information about the work of the St. Pancras House of Fellowship may be obtained from the warden.

University Degrees

"A. F." (Middlesex) writes: As one who was prevented by economic stress, following the premature death of my father, from sitting for the Final M.B., B.S.Lond. Examination, may I endorse Sir Ernest Graham-Little's plea for titular recognition of the Second Professional Examination. It is exceedingly difficult for such medical men in the same position to afford the time, or money, to do the work necessary to have a chance of success in the academic subjects of the Final Examination once they are settled in general practice. It is unfortunate that in this country we cannot emulate the Indian doctor who set up a successful practice in the East with the qualification on his plate "Fd. 1st M.B.London." There must be a large number of doctors who are entitled to put "Passed 2nd M.B., B.S. London" on their plates!

A Hospital Diary

The *Hospital Diary* for 1935, published by G. R. C. Brook and Co. (27, Old Bond Street, London, W.1), is very good value for 5s. In addition to the usual information contained in diaries, there are several interesting short articles on various aspects of hospital administration, extracts from the various Acts which have a bearing on medical practice, and tables of weights and measures. We note, too, that the pages for special telephone numbers are placed at the beginning of the diary—a more useful place than the end. Altogether, a diary to be recommended.

Disclaimers

Mr. B. W. RYCROFT (London, W.1) writes: Please allow me to publish this disclaimer for the publicity which has accompanied a recent case on which I operated at the Royal Eye Hospital. I am in no way responsible either for the representation of the facts or for the admission of the Press.

Mr. G. HANDELSMAN (senior house-surgeon, The Royal Eye Hospital, Southwark, S.E.1) writes: My attention has been drawn to certain paragraphs in the lay press in which my name has been mentioned in connexion with a recent operation at the Royal Eye Hospital. I shall be grateful if you will allow me to state that I was in no way responsible, and that my name was given to the Press without my knowledge or consent.

Messrs. A. Fleming and Co. (Sucers.), who deal in all classes of surgical equipment, have removed from 39, Victoria Street, S.W.1, to 51, Mortimer Street, W.1.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 44, 45, 46, 47, 48, 49, 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *16*.